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## ORIGINAL ARTICLES.

### AMERICAN VERSUS EUROPEAN MEDICAL EDUCATION.

A COMPARISON OF AMERICAN MEDICAL COLLEGE WORK WITH THAT OF EUROPEAN MEDICAL SCHOOLS.

INCLUDING SOME THOUGHTS UPON FREE TRADE IN MEDICAL DIPLOMAS OF FOREIGN MANUFACTURE.

*Read in the Section of State Medicine at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.*

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Any American physician who is thrown into the society of European medical men, either at home or abroad, cannot fail to become sensible of a feeling of contempt for American medical education and persons, which pervades the European to such an extent that, polite as he may be, he is never able to wholly disguise it. This sentiment is most freely exhibited by medical immigrants to this country, by gentlemen who come here to settle after having received a foreign medical degree or diploma; and many who show it most offensively are Americans by birth though of foreign parentage, who have been sent abroad for their medical education. If hailing from the German or Austro-Hungarian empires, the diplomas[1] possessed by these gentlemen do not qualify them to practice medicine in the countries where they were obtained; for not one in a thousand of such medical immigrants possesses the certificate of the State examination (Staats-Examen) of the country in which he was educated. Although, however, their education is not of a grade sufficiently high to admit them to practice at home, they are admitted by our liberal laws and customs to all the legal rights and professional privileges enjoyed by the most highly educated physicians of our own or any other country. In return, very many of them rarely fail to sneer at our colleges and their graduates, or to promulgate the idea that foreign medical education is so superior to ours that American graduates are not worthy of being entitled physicians.

This spirit pervades so many foreign medical men that it becomes exceedingly offensive to us at home, and equally humiliating abroad; especially to those who believe, with the writer, that the assumption is unjust to our professional men and schools; and that it is based upon false information and prejudiced statements, which find their way every now and again into the columns of the European medical press.

That we ourselves are to blame, for this contemptuous treatment from many who are inferior to our poorest graduates, is a fact which becomes apparent after devoting but slight attention to the subject. If we would honor ourselves and our Harvards, Bellevues, Jeffersons, etc., by demanding from the lawyers who make our laws the application of the same tests to, and restrictions upon foreign graduates, which their governments apply to our graduates, we would strike at the root of the evil, and enforce respect with a single blow. If our laws were made to provide that no diploma from a German medical school or University would be recognized by the Pennsylvania State Board of Examiners until such times as graduates of Pennsylvania medical schools received similar recognition in the German empire, we would hear the last about fraudulent American diplomas being the distinguishing feature of our system of medical education. The authorities at Berlin and Vienna would then speedily take the trouble to inform themselves in regard to the character of our different colleges; and would soon learn to distinguish between fraudulent American diplomas and true ones, as clearly as they do between fraudulent and genuine American bonds and other securities in their financial transactions.

The recent insolent action of the authorities of the medical school at Berlin, in denying to our graduates studying there the right to the letters "M.D." after their names in the catalogue, though giving it to graduated students from other countries, ought to open the eyes of every American physician, and excite a determined spirit of

[1] Throughout this paper I shall use the word "diploma" in its common significance, the certificate of graduation in either College or University.

retaliation, unless we have lost our manhood entirely, and are satisfied to submit to any insult from any source. The first effect should be to draw our students away from Berlin, where they have been flocking of late years for post-graduate study; which can be obtained by the English-speaking student with much more direct benefit at London or Edinburgh. If a student is not thoroughly versed in the German language he can obtain but little benefit from a post-graduate year in Berlin or Vienna; unless the atmosphere of those cities is so permeated with medical lore that the student inhales its wisdom as he breathes, or absorbs it from the beer he drinks and the tobacco he smokes. England is our natural mother educationally as in every other respect. Our old time physicians went to Edinburgh to finish up, and there has never been any real reason why our students should go beyond that ancient seat of learning any farther than London, to obtain any advantage of medical education.

To return to the question, however, whether our medical schools are as deserving of credit as those of Europe, will necessitate our looking somewhat closely at the latter, before drawing any conclusions upon the subject. The very fact that German degrees in medicine are discredited by their own governments, every graduate being obliged to pass the State Examination before being permitted to practice, shows clearly that the diploma of M.D. of the average German University is of little value at home as evidence of a good medical education. Such has always been the impression in England in regard to German degrees, which from time immemorial have been looked upon there with even more contempt than the Berlin dons show for American ones. And when we understand, that attendance upon lectures is not only not obligatory upon the German medical student, but is not even required by the regulations of many of their best Universities, we are not at a loss for a reason why their degrees are discredited. The rule in German colleges seems to be to let the students do pretty much as they please. Understanding this feature of German medical education, that students are admitted to the final examination in many schools, without any requirement as to previous attendance on lectures, we will require a great deal of faith to believe that their average graduates are as well educated as ours, who must attend 80 per cent. of the daily lectures for three collegiate years. The evidence for this statement does not rest on mere hearsay. I have before me the regulations of the University of Heidelberg,[2] for graduation in medicine; the first of which reads as follows, in extremely ungrammatical phraseology:

"1. *In applying for the examination for the degree of Doctor, no evidence of Medical Studies is required, further than the passing of the Examination.*"

Not only no lectures, but no pupilage, no evidence as to time of study, and the University expressly states that no such requirements are demanded. What a howl would go up all over the world if an American medical college should publish such an announcement to intending medical students?

Many of our State Examining Boards have passed resolutions to the effect that after a certain specified date they will not recognize the diplomas of schools which do not require attendance on three full courses of lectures. The resolution of the California State Board of Examiners is as follows:

"Resolved, that on and after April 1, 1891, the Board of Examiners of the Medical Society of the State of California will not grant certificates to practice medicine on diplomas issued after that date by colleges which do not require *that all candidates for graduation* shall have studied medicine not less than three full years, and *shall have attended not less than three full regular courses of lectures delivered during three separate years.*"

If these Boards stand by their announced resolutions they must throw out the diplomas of Heidelberg and many other prominent German Universities, which by their own published regulations show that they do not come up to such a standard as our licensing boards require.

The regulations of the University of Munich (München), are expressed in such broad terms, that it is evident that almost any kind of a medical education would comply therewith. They state as follows:[3]

"Candidates, before being admitted to the Doctorate Examination, must present to the Medical Faculty the following:

1. A Gymnasial certificate, or at least such certificate as shows that the candidate has enjoyed a regular education.

2. Certificates of at least four years' attendance at a Uuiversity *or Medical Institution*, and of attendance at the *Lectures* on the "*principal branches* of Natural Science and Medicine."

Then follow requirements for certificates as to the candidate's "*assistance at a birth, and the application of a bandage*," and others equally trifling, after which comes a verbal examination of two hours in the German language, a dissertation written in Latin or German, and fees to the amount of $75. This standard is far below that of the poorest of the American colleges. The term "*regular education*" in paragraph 1 may mean anything, and the "*Medical Institution*" of paragraph 2 would cover any sort of a concern which the Faculty chose to accept. So also the "*Lectures on the principal branches*" does not define the number of lectures, by whom, or the branches lectured on; and the verbal examination leaves no evidence behind to act as a check

[2] "Medical Education and Practice in all parts of the World," by H. J. Hardwicke, M.D., F.R.C.S., etc., London, 1880, page 85.

[3] Op. cit., page 88.

upon the Faculty. In fact, the standard of the University of Munich for the degree of M.D. is ridiculously low; and if such regulations were promulgated by an American college, its diploma would be discredited by all our State Boards and Medical Societies.

The regulations of the Universities of Berlin, Leipzig, Bonn, Würzburg, etc., are more definite, and require from three to four years of regular attendance at a medical school. The Austrian Universities are all under the same rule, requiring at least five years of work in the medical school, the course occupying nine months in each year.

To all this, the Germanophile will reply, that the quality of the examinations is such that no unworthy candidate can pass. Of this we have no evidence but the official discrediting of these examinations by the State, which is rather against than in favor of their high rank.

A German physician now practicing as a specialist in one of our large cities, and a graduate in medicine of the University of Würzburg, as recently as 1884, told me himself that although an M.D., of that University he could never practice there, for he could not be admitted to the State Examination, not having gone through the proper gymnasium before entering the University. This shows that the degree of this University is granted with very little adherence to governmental regulations; and exhibits a rather anomalous state of affairs, that a man should be an M.D. of a leading University in a country where he never can obtain authority to practice medicine. Yet this man practices here on that degree, and freely abuses the educational institutions of the country which has been so much more generous to him than the land of his own educational career.

To recapitulate then, we see that the medical degrees of German Universities are discredited by the German authorities, and do not entitle their holders to practice in Germany:—that one leading German University, as late as 1880, announced in its regulations that it did not require any attendance at lectures, or anything else, as a prerequisite to examination for its degree of M.D.:—that another leading German University uses the term "*Medical Institution*" in defining the term of study required of candidates, with other equally indefinite requirements:—and that the quality of their final examinations is just as much an unknown quantity as it is in any other country.

British Medical Education is based upon a much higher standard than that of Germany in respect of the guarantees it gives of the possession of definite qualifications. A British degree or other "qualification" in medicine means that its owner is a man of a certain definite general education, who has received a strictly specified amount of medical training, gone through a certain amount of medical study, and passed examinations as searching as it is possible for examinations to be.

Our evidence for this assertion is three-fold. In the first place the British government accepts the British college diploma as evidence of professional fitness, and makes it its business to see that the diploma has this value. In the second place, the candidate for a diploma is not examined therefor by the men who have taught him, but by a different set of Examiners, who know him only by a number: the Royal Colleges having no teaching powers, and the teaching schools having no power to grant diplomas of any kind. The college examinations in England, therefore, occupy the same place as the German State Examinations; but, being in the accredited position they are, their diplomas mean something; and the anomaly is avoided of having Doctors of Medicine who are not entitled to practice their profession under the laws of the very country which conferred on them the degree of M.D. through its chartered agent, the University.

In the third place, a British medical student is surrounded by definite rules at every step of his course. He must register under the law the fact that he has begun his study; he must pass a preliminary examination in general education before he can so register, the subjects of which are strictly defined;—he must spend so many sessions at a regularly approved hospital, in practical work;—he must attend so many lectures at a regular school on each specified subject;—he must receive certain definite practical instruction, dissect so many months, and finally, after not less than four years from the date of his registration as a student, he must pass certain examinations, in part oral, in part written, before a body of Examiners having no interest whatever in the school where he was taught,—men who have never exposed their hobbies to him in lectures, and who do not even know where he received his training. The public is guaranteed that every man who receives a British diploma has gone through this strictly prescribed course, and therefore it can rely upon the fact that the graduate has been properly prepared for his professional work, so far as human institutions can accomplish such preparation. The General Medical Council controls everything pertaining to medical education and registration in the kingdom,—and is a representative body, being composed of one member elected by each of the seventeen colleges, universities, and other qualifying bodies, with six others appointed by the crown.

In making any comparison between the educational standards of two countries, it is impossible to consider the maximum requirements or work done for any degree or other reward, the maximum always varying with each individual student. The only feasible standard of comparison is the *minimum*, the least possible amount of

actual work, time, etc., required to make the student eligible to a certain place or position. Another reason for this position is found in the universal experience of educators that the majority of students will seek the institutions which demand *the least* expenditure of time, work and money, in return for a certain, respectable degree. This is a law the world over, and instances to the contrary are only exceptions to the rule. When the foreign medical man criticizes our methods, it is our *minimum* requirements which he looks up and sneers at. Let us look at the *minimum* requirements for the medical diploma in another of the great countries with which we have most frequent association in matters medical.

The British course of medical study is laid down at *four years* at least; that is to say, the candidate cannot present himself for his final examination until the expiration of four years from the date of his registration as a medical student. So far,—so good!

When, however, we look at the requirements laid down for the various courses of study of which the period of four years is made up, we will find some things which are new to many an American graduate who has spent two faithful years at college, with one previous year or more of pupilage, and then has listened to a Canadian graduate's abuse of the American short term of study.

In the first place, the English student is permitted to spend, out of the four years, one year and a half, or "*one winter session and two summer sessions, receiving Instruction as a Pupil of a legally qualified Practitioner holding such a public appointment, or having such opportunities of imparting a practical knowledge of Medicine, Surgery or Midwifery, as shall be satisfactory to the two colleges.*" I quote from the most recent regulations for the Conjoint Examination by the Royal College of Physicians of London and the Royal College of Surgeons of England.

Now, this means the old system of preceptorship which we have always had in addition to our college courses, but which we never counted in speaking of a student's education; and which our colleges are now dropping entirely, and replacing by a third year in college, for reasons which seem good to the profession over here. When an Englishman speaks of our 2 years' course as against his 4 years, he forgets, or perhaps does not know, that our 2-years' colleges always required a previous year of pupilage, and that his own colleges permit 1½ years of their 4 years to be spent in the same way.

This reduces the obligatory period of actual work for an English diploma to 2½ years; but does he spend this 2½ years attending lectures? No, indeed!—he is only obliged to attend lectures for ½ year, one college term of six months. The rest of the 2½ years he is required to put in attending, "*at a recognized Hospital or Hospitals, the Practice of Medicine and Surgery.*" The obligatory course of lectures includes on

*Medicine and Surgery*,—6 months each, 3 a week on each subject.
*Anatomy*,—6 months, or one Winter Session.
*General Anatomy and Physiology*,—6 months, 3 lectures a week.
*Midwifery and Diseases peculiar to Women*,—3 months.
*Pathological Anatomy*,—3 months.
*Forensic Medicine*,—3 months.

Attendance on lectures on Eye and Ear Surgery, and other special branches, as Histology, Microscopy, etc., etc., is optional with the student.

The 2½ years of actual work is thus seen to include only *one course of lectures*, the rest of the time being spent in the Hospital Service of the Medical School, including service as a clinical clerk and surgical dresser, clinical lectures in the wards, and other practical instruction. This hospital attendance must cover 3 Winter and 2 Summer Sessions, or 2½ years, the whole period not covered by the pupilage of 1½ year: so that evidently the six months' course of lectures is attended at the same time as the hospital service, by one who is doing the minimum time. This is borne out by the following extract from the announcement of St. Bartholomew's Hospital and College, for 1888–1889:

"With reference to Professional studies, other than those in a Medical School, it should be remembered that only 18 months of such studies are recognized by the College of Physicians and the College of Surgeons. Their Regulations require that *at least two years and a half* of the requisite four years of Professional study shall be passed at a *Hospital Medical School;* while, of course, the whole of the four years of compulsory Professional study may be so passed with advantage."

SUMMARIZING THE MINIMUM WORK for an English Diploma, we have—

(1). Preliminary Exam'n in General Education, followed by Registration.
(2). Pupilage with a legally qualified and approved Practitioner . . . . . 1½ year.
(3). Exam'ns in Anatomy, Physiology, etc., at various times during the course.
(4). Attendance on the { Practice of an Hospital Medical School —the Hospital Service . . . . . 2 years. / Lectures of an Hospital Medical School —one Winter Course ½ year.
(5). Final Exam'n in Medicine, Surgery and Midwifery, after the minimum period of 4 years.

American Medical Schools must now claim our attention, and though it may seem a trite subject to many of you I trust that I will be able to present some new views and interesting features of their work for your consideration. Let us inquire into the minimum amount of work required from the American medical student!

Foreign medical men believe that in many American colleges a medical student can graduate

after six months' study. I will acknowledge that, and go further, and say that he can graduate without any study at all, if it so please him. The strongest and most arbitrary governments, with all the exercise of their power and resources, have never been able to entirely stop counterfeiting and smuggling,—both of which offences are constantly going on to some extent. How, then, is it possible for a profession, loosely organized, having no power or resources, to prevent the issuing of fraudulent medical diplomas by criminals who choose to manufacture such documents and sell them to others equally criminal? Such things have been done,—are being done,—and will be done to the end of time! They are more easily done in a new country than in an old one: they are exposed when found out, and the guilty parties punished when a jury can be found to convict them. In some few cases, similar fraudulent practices have been perpetrated under legal cover,—as in the case of the Buchanan College at Philadelphia, the proprietor of which had stolen an old charter, issued forty years before for a college which was never organized. This charter was forgotten, but had never been repealed by the legislature; and under it Buchanan and his faculty of Methodist ministers worked, and sold diplomas for several years. So also, in the case of the fraudulent school started a few years ago in Jefferson County, Kentucky, under the name of the *Jefferson Medical College*, expecting to trade on the reputation of an eminent school in Philadelphia, then over 60 years of age, having 10,000 alumni, and a faculty which always included the most honored names in the American medical profession. A similar instance was the recent attempt to erect a fraudulent medical school in Boston, under the name of the *Bellevue Medical College*, stealing the title of a renowned New York college which is known all over the world.

The Berlin college authorities recently told our students, (and individual Englishmen often echo the idea), that they cannot distinguish between our good and our bad schools, and hence must reject all. When they have any money to invest in our railroad bonds, our brewery stocks, or our mining corporations, they make it their business to so distinguish between the good and the bad, —between companies controlled by honest men, and those which are run by thieves. They know the difference between Ontario and Emma mining stocks;—they do not reject all our securities from their financial consideration because some are bad; and they can just as easily ascertain which of our schools are deserving of their respect, and which are not so. Three hours' work of a medical attachè to the German embassy at Washington would obtain all the needful information, if they desired it.

AMERICAN MEDICAL COLLEGES, good, bad and indifferent, may be arranged in the following four classes, viz.—

(1). Medical colleges which require a preliminary examination before matriculation,—3 full courses of lectures in all branches, of not less than six months each, in not less than 3 calendar years,—and pass examinations during the course; —with full clinical instruction, 3 days in a week, throughout the terms,—before the student is admitted to the final examination. Many of these schools have even higher requirements than the above, having graded classes, with pass examinations from one to the other; an optional and recommended course of 4 years in college; and require attendance on one or more of their Summer Courses before final examination.

In this class are the Medical Schools of the following Universities,—Harvard, Pennsylvania, Michigan (including the Homœopathic Department of the latter), Cooper Medical College of San Francisco, Jefferson Medical College and the Medico-Chirurgical College of Philadelphia, the College of Physicians and Surgeons of New York, the Boston University School of Medicine (Homœopathic), and a large number of others, embracing colleges in all the larger cities of the country, hardly to be distinguished from each other in the excellence of their teaching, the high professional standing of their Faculties, the strictness and honesty with which they carry out their requirements, and the high character of their graduates. This class includes about 60 per cent. of all the recognized schools.

(2). Medical Colleges requiring as pre-requisites to final examination, 2 full courses of lectures in not less than 2 calendar years, and a previous year of pupilage with a recognized practitioner. Many of these schools have an entrance examination, some adopted the 3-years' plan for a while, and abandoned it when their classes fell off; and most of them have announced their intention to shortly adopt the compulsory 3 years' college course. Such are the Medical Departments of many State Universities, including those of Oregon, Maryland, Iowa, Vermont, Virginia, etc., the University of the City of New York, of Georgetown, and the following colleges,—Bellevue, Yale, Rush, Miami, Ohio, etc.—the full list comprising many of the very best teaching schools in the country, and about 35 per cent. of all the recognized schools.

(3). Medical Colleges having no preliminary examination, and only requiring 2 courses of lectures, not necessarily in 2 calendar years, however, before admitting to the final examination. The list of these schools, though a very small one, is too large unfortunately; and sometimes a case occurs which would seem to throw a school, of which better things are expected, into this category. Their names cannot be given, inasmuch as to do so would only direct students to them, and aid them in their nefarious practices. They are known sufficiently well by every phy-

sician who has had a young man leave his neighborhood, and return after a year or so with a diploma and the title of Doctor of Medicine. They include about 5 per cent. of the recognized schools.

(4). Unrecognized Colleges and other Institutions issuing diplomas which are not accepted by any of the State Examining Boards, or by Medical Societies as a basis of membership. Several lists have been published from time to time of these so-called Colleges. The following is that published by the Iowa State Board of Medical Examiners, as embracing the schools which are not recognized by it. Most of them have no real existence, but would be found in the garret of some quack doctor's house, or in a place for giving hot baths, as was the case in one instance personally known to the writer.

NOT RECOGNIZED.

Diplomas from the following Colleges are *not* recognized by the Iowa State Board of Medical Examiners. For what reasons it is not stated:

American Eclectic College, Cincinnati.
American Health College, Cincinnati.
American University of Pennsylvania (Buchanan), Philadelphia (now suppressed).
Beach Medical Institute, Indianapolis.
Bellevue Medical College of Massachusetts.
College of Physicians and Surgeons, Buffalo, N. Y.
College of Physicians and Surgeons, Milwaukee.
Eclectic Medical College of Philadelphia.
Edinburgh University, Chicago and St. Louis.
Excelsior Medical College, Boston.
Hygeo-Therapeutic College, Bergen Heights, N. J.
Hygeo-Therapeutic College, New York City.
Joplin Medical College, Joplin, Missouri.
Livingstone University, Haddonfield, N. J.
Medical Department of the American University of Boston, Boston.
New England University of Arts and Sciences, Boston.
New England University Arts and Sciences, Manchester, N. H.
Penn Medical University, Philadelphia.
Philadelphia University of Medicine and Surgery, Philadelphia.
Physio Eclectic Medical College and Physio-Medical College, Cincinnati.
St. Louis Eclectic Medical College, St. Louis.
St. Louis Homœopathic Medical College, St. Louis.
Curtis Physio-Medical Institute, Marion, Ind.
American Anthropological University of St. Louis.
Medical Department of Drake University, Des Moines, Iowa.
King Eclectic Medical College, Des Moines, Iowa.

It will now become evident, to those who have followed me, that the vast majority of the schools of this country require 3 years attendance on lectures and clinics in the college;—that nearly all the others require 1 year of pupilage and 2 years of college work,—and that the recognized schools falling below this latter standard are very few in number, and by the end of next year they will all be obliged to advance their standard to the 3-years' basis, on penalty of being discredited by the State Licensing Boards which have so declared their determination.

In comparing the *Minimum Time* spent by the American and the English Medical Student, we have their time as follows:

| COLLEGES OR SCHOOLS OF MEDICINE. | Tot. Years. of Pupilage with a Practioner. | Total Years of Actual Work in Medical School. | | Tot. Years in Full Course of Study. |
|---|---|---|---|---|
| | | Hospital. | Lectures. | |
| Conjoint Examination for diplomas of Roy. Coll. of Phys., London, and Roy. Coll. of Surg., England. | 1½ | 2 | ½ | 4 |
| | | Hospitals and Lectures. | | |
| American Schools of 1st Class, numbering 60 per cent. of the whole. | . . | 3 | | 3 |
| American Schools of 2nd Class, numbering 35 per cent. of the whole. | 1 | 2 | | 3 |
| American Schools of 3rd Class, numbering 5 per cent. of the whole. | . . | 2 (?) | | 2 (?) |

So, then, as far as time is concerned, in our first-class schools we require 3 years of actual work to the English student's 2½ years;—in the second-class schools we require 2 years of actual work to the English student's 2½ years; and in our third-class schools everything is doubtful, but they form an insignificant part of the whole, and are located in small cities where their attendance is very slight.

Now, let us look at the *Minimum Work* done by a student in the school I know best, being that in which I have the honor to occupy a chair, the *Cooper Medical College of San Francisco.* In this school, one of the best of the First Class, the student must make, by roll-calls, at least 80 per cent. of the following schedule, before final examination, excepting the number of Months, which represents the actual minimum working time in the three years of the college course, for each branch of study.

COOPER MEDICAL COLLEGE, SAN FRANCISCO.

| No. of Mos. | | | | Branches of Study. | No. of Lectures. | | | | No. of Clinics. | | | | Tot. of Lect. and Clinics. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 year. | 2 year. | 3 year. | Total. | | 1 year. | 2 year. | 3 year. | Total. | 1 year. | 2 year. | 3 year. | Total. | |
| 5 | 5 | 8½ | 18½ | Anatomy | 60 | 60 | 76 | 196 | . | . | . | . | 196 |
| 5 | 5 | 8½ | 18½ | Anatomy, Demonstra'ns | 20 | 20 | 52 | 92 | . | . | . | . | 92 |
| . | . | . | . | *Anatomy, Dissections. | . | . | . | . | . | . | . | . | . |
| 5 | 5 | . | 10 | Physiology | 60 | 60 | . | 120 | . | . | . | . | 120 |
| . | 5 | 8½ | 13½ | Materia Med. and Thera. | . | 60 | 76 | 136 | . | . | . | . | 136 |
| 5 | 5 | 3½ | 13½ | Chemistry, | 40 | 40 | 32 | 112 | . | . | . | . | 112 |
| 5 | 5 | 8½ | 18½ | Medicine | 60 | 60 | 76 | 196 | . | 80 | 144 | 224 | 420 |
| 5 | 5 | 8½ | 18½ | Surgery | 60 | 60 | 76 | 196 | . | 80 | 144 | 224 | 420 |
| 5 | 5 | 8½ | 18½ | Obstetrics. | 40 | 40 | 40 | 120 | . | . | . | . | 120 |
| 5 | 5 | 5 | 15 | Diseases of Women. | 40 | 40 | 40 | 120 | . | 20 | 36 | 56 | 176 |
| 5 | 5 | 5 | 15 | Diseases of Children | 20 | 20 | 20 | 60 | . | 20 | 36 | 56 | 116 |
| . | 5 | 8½ | 13½ | Eye and Ear Diseases | . | . | 16 | 16 | . | 60 | 92 | 152 | 168 |
| 5 | 5 | 8½ | 18½ | Micros. and Histology | 40 | 40 | 56 | 136 | . | . | . | . | 136 |
| . | . | 3½ | 3½ | Pathology, Demonstr. | . | . | 16 | 16 | . | . | . | . | . |
| . | . | 3½ | 3½ | Mental Diseases. | . | . | 16 | 16 | . | . | . | . | 16 |
| . | . | 3½ | 3½ | †Physical Diagnosis. | . | . | 16 | 16 | . | . | . | . | . |
| . | 5 | 8½ | 13½ | Nervous Diseases. | . | . | . | . | . | 20 | 36 | 56 | 56 |
| . | 5 | 8½ | 13½ | Genito-Urinary Dis. | . | . | 16 | 16 | . | 20 | 36 | 56 | 72 |

* Five parts at least. † Taught also in every clinic.

The Intermediate Course occupies 3½ months, from January 15 to April 30; it is obligatory on the third-year students, but is largely attended by

those of the second year. The Regular Term occupies 5 months, from June 1 to October 31, and is obligatory on all three classes. Ten clinics are held at the College every week in the entire calendar year; and 4 clinics are held at the City and County Hospital every week by the Clinical Professors of Medicine and Surgery. The student's daily work begins at a clinic at 8 o'clock A.M. on Monday, and continues every week-day to 5:30 P.M. except Saturday, on which day it ends at 4 P.M. This does not include extra-mural quizzes, and other optional work which is always going on during the term. In the Intermediate Course 16 Lectures and 16 Clinics are delivered in each week; in the Regular Course the weekly exercises number 24 Lectures and 15 Clinics. The Practical Anatomy is counted by parts of the subject, five parts, dissected to the satisfaction of the Demonstrator, being required of every student. Pass examinations are held at the end of every term, a Preliminary Examination is required before matriculation of all non-graduates in arts, and the Final Examination for the Degree is both written and oral, occupies nearly two weeks, and includes practical examinations at the bedside by the Clinical Professors of Medicine and Surgery. Besides the above, each member of the Faculty constantly quizzes his class either in the clinic or the lecture-room,—and knows thereby the exact standing of each student long before the final examination arrives.

Such is the minimum work in one school; its maximum varies with the individual students. Several voluntarily take a four-year's college course, all who can get such appointments, spend a year after graduation as internes in the various hospitals of the city and State;—some go abroad every year for a post-graduate course in Berlin, Vienna, Edinburgh or London; a few go up for the Army and Naval examinations; and several are obliged to remain or go elsewhere, having failed in the final examination.

It is not our policy to reject men at the final examination, if we can help it; but rather to weed them out at the end of their second year. If, at that time, we see that a student is not up to the standard, he is quietly advised of the fact, and he does not enter the third year's class. As a result of this policy we find our final rejections are few in number, a fact which is often misrepresented by persons who do not care to examine into the truth of the matter.

The self-sacrifice shown by our Faculty is but a sample of what is shown in nearly all our medical schools. Each member of ours gives, on an average, ten hours of his time weekly to college work, exclusive of the hours spent in preparation, and not one draws a cent from its treasury. Our President and Founder, L. C. Lane, A. M., M.D. (Jeff.), L.L.D. (Union Coll.), M.R.C.S. England, M.D. (Berlin Univ.), has spent of his own private funds fully $250,000 on our building and site; and this in the evening of his career, after his professional triumphs have been won, and when he has nothing to obtain in honors, for he has received them all, from either his profession or the community. Such noble work as this is being done throughout the land by great-hearted men; and it is inexpressibly provoking to see the results of their self-abnegation referred to with contempt by others, who never in their lives gave a dollar or a minute to the cause of medical education.

One of our college experiences may prove interesting to our critics over the water. We have applications every year for admittance, asking short terms and guaranteed graduation, from people who do not know our methods; but fully 90 per cent. of such applications come from the English colonies in Australia, Tasmania, New Zealand and British Columbia, from would-be physicians who have read in English medical journals that medical diplomas are to be purchased here in open market. These applicants always state that they cannot afford to stay very long, and usually add the remark that expense is no object. Our Dean replies to all such by sending a copy of our Announcement, and adding the information that its requirements are strictly adhered to. Our organic law forbids our conferring an honorary degree, or even a degree *ad eundem*.

Some few English medical men have given credit to American medical colleges for what they are doing. For example, in the preface to the book already cited, Dr. Hardwicke says: "In some of the States of the Union there exist a great number of first-class and highly respectable Universities and Medical Colleges, capable of affording as good and sound an education as can be obtained in Europe. *Harvard, Pennsylvania, New York, Bellevue and Jefferson, are names honored as much in Europe as in America.*"

Unfortunately, however, there are many instances of a less fair spirit among English medical writers. The following is a recent and most glaring instance:

"AMERICAN DEGREES.

"Having written a reliable friend in the United States of America for information respecting a certain American Degree, he kindly writes (October 10, 1889) "The enclosed bears on your enquiry." The following is the enclosure from the *Kansas City Daily Star* of October 2, 1889:

"Degrees are acquired in the United States with alarming facility. The *North American Review* for October contains a very instructive, if somewhat alarming article by Drs. Eggleston, Flint and Doremus, in which, under the title 'The Doors Open to Quackery,' the writers discuss the present methods by which professors of the art of healing are manufactured in America, and turned loose upon a luckless community. Dr. Eggleston says that there are 'not a dozen American medical colleges out of 117 that would be tolerated for a moment in any country that pretends to be civilized;' and this, despite the efforts of the best men in the medical profession, which are openly combated or secretly thwarted by

Table showing Work of Students in certain AMERICAN MEDICAL COLLEGES, also the same ject the number of *hours occupied per week* of obligatory terms, and the *Total Number* ments for 1888–1889, by SAM'L O. L. POTTER, A.M., M.D., Pro-

| AMERICAN. | College of Phys. and Surg., New York.* (Obligatory course.) | | | | Cooper Medical College† of San Francisco. (Obligatory course.) | | | | Jefferson Medical College of Philadelphia. (Advised course.) | | | | College of Physicians and Surgeons. Chicago. (Advised course.) | | | | Medico-Chirurgical College of Philadelphia. (Obligatory course.) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Years. | 1 | 2 | 3 | Total. | 1 | 2 | 3 | Total. | 1 | 2 | 3 | Total. | 1 | 2 | 3 | Total. | 1 | 2 | 3 | Total. |
| ANATOMY, Lectures. | 3 | 3 | .. | 204 | 4 | 4 | 4 | 290 | 5 | 3 | .. | 200‡ | 6 | 7 | .. | 286 | 3 | 4 | 2 | 216 |
| Dissections⁂ | 6 | 4 | .. | 340 | 10 | 5 | .. | 300 | 10 | 5 | .. | 375 | 10 | 5 | .. | 350 | 8 | 1 | .. | 204 |
| PHYSIOLOGY, Lectures | 3 | 3 | .. | 204 | 3 | 3 | .. | 120 | 3 | 3 | .. | 150 | 6 | .. | .. | 132 | 3 | 4 | .. | 168 |
| *Histology and Micros.* | 4 | .. | 1 | 170 | 2 | 2 | 2 | 135 | .. | 4 | .. | 100 | 3 | .. | .. | 66 | 4 | 1 | .. | 120 |
| CHEMISTRY AND PHYSICS | 3 | 3 | .. | 204 | 2 | 2 | 2 | 115 | 3 | 6 | .. | 225 | 8 | .. | .. | 176 | 7 | 4 | .. | 264 |
| *Med. Chem. & Urinalysis.* | 4 | .. | .. | 136 | .. | .. | 1 | 20 | .. | .. | 1 | 25 | .. | 5 | 4 | 198 | .. | 2 | .. | 48 |
| MAT. MEDICA AND THERAP. | .. | 3 | 3 | 204 | .. | 3 | 3 | 135 | 5 | 5 | .. | 200 | 3 | 3 | .. | 132 | 2 | 3 | 2 | 156 |
| *Jurisprudence.* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 25 | .. | 1 | .. | 22 | .. | .. | 1 | 24 |
| *Pharmacy.* | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 50 | .. | .. | .. | .. | 2 | ½ | .. | 60 |
| *Pharmacology.* | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 25 | .. | .. | .. | .. | .. | .. | .. | .. |
| *Hygiene.* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 25 | .. | 1 | .. | 22 | 2 | .. | .. | 48 |
| MEDICINE, PRIN. AND PRAC. | .. | 3 | 3 | 204 | 3 | 3 | 3 | 195 | 3 | 3 | 3 | 225 | .. | .. | 4 | 88 | .. | 4 | 5 | 228 |
| *Med. Pathology* | .. | .. | 1 | 34 | .. | .. | 1 | 15 | .. | 4 | 4 | 200 | .. | 2 | .. | 44 | 1 | 4 | .. | 120 |
| ††*Phys. Diagnosis.* | .. | .. | .. | .. | .. | .. | 1 | 15 | .. | .. | 3 | 75 | .. | .. | ½ | 12 | .. | 1 | ½ | 36 |
| *Mental Diseases.* | .. | .. | 1 | 34 | .. | .. | 1 | 15 | .. | .. | .. | .. | .. | 2 | .. | 44 | .. | .. | 1 | 24 |
| SURGERY, PRIN. AND PRAC. | .. | 3 | 3 | 204 | 3 | 3 | 3 | 195 | 3 | 3 | 3 | 225 | .. | .. | 4 | 88 | .. | 3 | 4 | 156 |
| *Surg. Pathology.* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 22 | .. | .. | .. | .. |
| *Minor and Operative* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 100 | .. | .. | 1 | 22 | 2 | .. | 1 | 72 |
| *Dental* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 22 | .. | .. | .. | .. |
| *Orthopædic* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 22 | .. | .. | ½ | 12 |
| *Genito-Ur. & Dermatology* | .. | .. | .. | .. | .. | .. | 1 | 15 | .. | .. | .. | .. | .. | 2 | .. | 44 | .. | .. | 2 | 48 |
| *Ophthal. and Otol.* | .. | .. | 1 | 34 | .. | .. | 1 | 15 | .. | .. | .. | .. | .. | 1 | 1 | 44 | .. | .. | .. | .. |
| *Laryngological* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 22 | .. | .. | .. | .. |
| OBSTETRICS. | .. | 3 | 3 | 204 | 2 | 2 | 2 | 120 | .. | 3 | 3 | 150 | .. | .. | 4 | 88 | .. | 2 | 3 | 120 |
| *Gynecol. and Pædol.* | .. | .. | .. | .. | 3 | 3 | 3 | 240 | .. | .. | 4 | 100 | .. | .. | 2 | 44 | .. | .. | .. | .. |
| CLINICS, *Medical* | .. | 2 | .. | 68 | .. | 4 | 4 | 220 | 7 | 7 | 7 | 525 | .. | 5 | 5 | 220 | .. | 3 | 4 | 168 |
| *Surgical.* | .. | 4 | .. | 136 | .. | 4 | 4 | 220 | 7 | 7 | 7 | 525 | .. | 5 | 5 | 220 | 2 | 5 | 6 | 312 |
| *Gynecol. and Pædol.* | .. | .. | 1 | 34 | .. | 2 | 2 | 110 | 1 | 1 | 1 | 75 | .. | 1 | 1 | 44 | .. | 1 | 4 | 132 |
| *Nervous.* | .. | .. | 1 | 34 | .. | 1 | 1 | 55 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Ophth. and Otol.* | .. | .. | 3 | 102 | .. | 3 | 3 | 155 | 1 | 1 | 1 | 75 | .. | 1 | 1 | 44 | .. | .. | 1 | 24 |
| *Genito-urinary* | .. | .. | 1 | 34 | .. | 1 | 1 | 55 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Other Clinics* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 6 | 264 | .. | .. | .. | .. |
| DISPENS'Y AND HOSP. WORK. | .. | .. | .. | .. | .. | 2 | 2 | 110¶ | .. | .. | 3 | 75 | .. | .. | .. | .. | .. | .. | .. | .. |
| *Recitations* | | | | | Weekly each chair. | | | | Private quizzes . . | | | | Daily in College. . | | | | Daily in College. . | | | |
| *Hospital with College* | Roosevelt Hospital | | | | City and Co. Hosp. | | | | Jefferson Col. Hos. | | | | Cook Co. Hospital. | | | | Med. Chir. Hosp. | | | |
| *Dispensary with College.* | Vanderbilt Clinic. | | | | Morse Dispensary. | | | | At Hospital | | | | At College | | | | At College | | | |
| *Course.* { *Preceptor* | | | | | | | | | 1 year | | | | 1 year | | | | | | | |
| *Course.* { *College.* | 3 or 4 years. | | | | 3 or 4 years. | | | | 2 or 3 years. | | | | 2 or 3 years. | | | | 3 or 4 years. | | | |
| *Entrance Examination.* | Required. | | | | Required. | | | | Required. | | | | Required. | | | | Required. | | | |
| *Pass Examinations.* | Yearly | | | | Yearly | | | | | | | | Yearly | | | | Yearly | | | |
| *Final Examinations* | 3 after 2d year | | | | 2 after 2d year | | | | 4 after 2d year | | | | 3 after 2d year | | | | 3 after 2d year | | | |
| *Sessions yearly* { *Introductory.* | | | | | | | | | 2 weeks | | | | | | | | 3 weeks | | | |
| *Sessions yearly* { *Regular* | 34 weeks | | | | 20 weeks | | | | 25 " | | | | 22 weeks | | | | 24 " | | | |
| *Sessions yearly* { *Spring.* | | | | | 15 weeks | | | | 7 " | | | | 8 " | | | | 8 " | | | |
| *Obligatory Sessions* | 102 weeks | | | | 75 weeks | | | | 75 " | | | | 66 " | | | | 72 " | | | |
| *No. of Instructors.* | 33 | | | | 21 | | | | 18 | | | | 36 | | | | 41 | | | |
| *No. of Students* | 809 | | | | 126 | | | | 584 | | | | 162 | | | | 151 | | | |
| *No. of Graduates* | 115 | | | | 41 ⁂ | | | | 176 | | | | 46 | | | | 30 | | | |
| *Total Fees.* | $500 | | | | $315 | | | | $325 | | | | $210 | | | | $255 | | | |
| *Endowed by—* | W. H. Vanderbilt. | | | | Dr. L. C. Lane. | | | | Trustees | | | | Faculty. | | | | Dr. Pancoast, et. al. | | | |
| *How Endowed.* | Buildings, etc. | | | | Buildings, site, etc. | | | | Buildings, site, etc. | | | | Buildings, site, etc. | | | | Buildings, site. | | | |
| *Value of Endowment* | $500,000 | | | | $300,000 | | | | $350,000 (?) | | | | $50,000 (?) | | | | $100,000 (?) | | | |

* Based on an estimated number of three lectures a week from seven principal chairs.

† Exact figures, the 3d year having an obligatory Spring Course of 15 weeks, besides the regular course.

†† Taught in the clinics in every college, though often not mentioned in announcements.

‡ Includes two by the Demonstrator every week.

⁂ Estimated; taking the average time occupied in dissecting the five parts usually required.

P—Private classes in this subject, for which extra fees are charged by the instructor.

¶ In the Dispensary Medical Clinics of this College, the senior students are assigned by twos to each patient, whom they examine under the supervision of an assistant, making a full report with treatment, diagnosis, etc., on a blank form to the Professor in charge, who goes over the work with them in presence of the entire class. A similar method is pursued, somewhat modified, in the other clinics (10 in all), so that the senior student, during the two terms of his third year at college, personally examines and prescribes for, on an average, over 100 cases of disease before graduation. This is one of the advantages of having many medical colleges, with small classes, instead of a few schools in the great cities, with classes so crowded that these personal advantages are impossible of realization to the average student in their halls.

⁂ This graduating class was twice as large as the average of this school, and included several graduates of other colleges, and several "accumulations" from previous classes.

NOTES.—In selecting the colleges to be tabulated herein I have avoided taking all of the very best, omitting Harvard, University of Pennsylvania, University of Michigan, etc., and in their stead taking three "two-year" schools, so as to give a fairer average. In doing so, however, I have tabulated the "three-years' advised course" of these schools, for the reason that after this year (1890) they adopt the compulsory three-years' course.

The difficulty of tabulating the varying requirements on one form has been very great, from the fact that some schools omit to designate particular hours for certain subjects, which are known to be taught therein. For example, Hygiene is given a definite hour by three schools, in another it belongs to the chair of Practice, and in another to that of Materia Medica, without any assigned hour in either case. Though left blank in the table it must not be inferred that this subject is ignored by these schools.

The daily work of the English students is very difficult to understand in tabular form, for one who is not thoroughly acquainted

required for an ENGLISH QUALIFICATION IN MEDICINE AND SURGERY; giving for each sub- *of Hours* so occupied *for the entire Course of Study*. Compiled from the Announce- fessor of Medicine in the Cooper Medical College of San Francisco.

| Bellevue Hospital Medical College, of New York. (Advised course.) | | | | ENGLISH. | Double Qualification, L.R.C.P. (Lond.), M.R.C.S. (Eng.) St. Bartholomew's Hosp. and College Regulations, 1888–1889. | | | | | | | | | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Years. | | | | | | | | | |
| | | | | | 1st year. | | 2d year. | | 3d year. | | 4th year. | | Total Hours. | |
| | | | | Sessions. | S. | W. | S. | W. | S. | W. | S. | W. | | |
| 1 | 2 | 3 | Total. | Weeks. | 12½ | 22½ | 12½ | 22½ | 12½ | 22½ | 12½ | 22½ | | |
| 3 | 3 | .. | 144 | ANATOMY, Lectures. | May be spent as the private pupil of a recognized practitioner. | May be spent as the private pupil of a recognized practitioner. | . . . | 4 | May be spent as the private pupil of a recognized practitioner. | . . . | . . . | . . . | 90 | |
| 6 | 4 | .. | 240 | *Dissections* | | | Daily | Daily | | | | | 12 mos. | |
| 3 | 3 | .. | 144 | PHYSIOLOGY, Lectures | | | . . . | 3 | | | | | 67 | |
| .. | .. | P. | .. | *Prac. Physiology* | | | . . . | 1½ | | | | | 35 | |
| 2 | 2 | .. | 96 | CHEMISTRY AND PHYSICS | | | 5 | . . . | | | | | 62 | |
| ½ | ½ | P. | 24 | *Prac. Chemistry* | | | 6 | . . . | | | | | 75 | |
| 3 | 3 | .. | 144 | MAT. MEDICA AND THERAP. | | | 4 | . . . | | | | | 50 | |
| ½ | ½ | P. | 24 | *Forensic Medicine* | | | . . . | . . . | | | 3 | . . . | 37 | |
| .. | .. | .. | .. | *Pharmacy* | | | Ins. | . . . | | | . . . | . . . | Inst'n. | |
| .. | .. | .. | .. | EXAMINATIONS | | | EX. | EX. | | | . . . | . . . | . . . | *1st and 2d examinations.* |
| .. | .. | .. | .. | *Hygiene* | | | . . . | . . . | | | 1 | . . . | . . . | Optional. |
| 3 | 3 | 3 | 216 | MEDICINE, Lectures | | | . . . | . . . | | 3 | . . . | . . . | 67 | |
| 1 | 1 | P. | 48 | *Med. Pathology* | | | . . . | . . . | | . . . | 2 | 1 | 48 | |
| .. | ½ | P. | 12 | *Phys. Diagnosis* | | | . . . | . . . | | C.C. | . . . | . . . | 6 mos. | C.C.,=Clinical Clerk. |
| ⅓ | ⅓ | ⅓ | 24 | *Mental Dis.* | | | . . . | . . . | | . . . | 1 | . . . | . . . | Optional. |
| 3 | 3 | 3 | 216 | SURGERY, Lectures. | | | . . . | . . . | | 3 | . . . | . . . | 67 | |
| .. | .. | P. | .. | *Surg. Pathology* | | | . . . | . . . | | . . . | 2 | 1 | 48 | |
| .. | ½ | P. | 12 | *Operative* | | | . . . | . . . | | 3 | 4 | 3 | 185 | |
| .. | .. | .. | .. | *Minor* | | | . . . | . . . | | . . . | . . . | D | 6 mos. | D.,=Dresser. |
| 1 | 1 | 1 | 72 | *Orthopædic* | | | . . . | . . . | | . . . | . . . | 1 | . . . | Optional. |
| 1 | 1 | 1 | 72 | *Dermatology* | | | . . . | . . . | | . . . | 1 | . . . | . . . | " |
| 1 | 1 | P. | 48 | *Ophthalmology* | | | . . . | . . . | | . . . | . . . | 2 | . . . | " |
| 1 | 1 | P. | 48 | *Larynx* | | | . . . | . . . | | . . . | 2 | . . . | . . . | |
| 2 | 2 | 2 | 144 | MIDWIFERY, etc., Lectures. | | | . . . | . . . | | . . . | 6 | . . . | 75 | |
| 1 | 1 | 1 | 72 | *Labors* | | | . . . | . . . | | . . . | . . . | . . . | 20 | 20 labors. |
| 2 | 2 | 2 | 144 | CLINICS, *Med.*, Lectures | | | . . . | . . . | | . . . | 1 | 1 | 35 | |
| 4 | 4 | 4 | 288 | " *Surgical*, Lectures. | | | . . . | . . . | | . . . | 1 | 1 | 35 | |
| 1 | 2 | P. | 88 | " *Gynecological* | | | . . . | . . . | | . . . | 1 | ½ | 24 | |
| ½ | ½ | ½ | 36 | " *Ophthalmological* | | | . . . | . . . | | . . . | 5 | . . . | . . . | Optional. |
| .. | .. | P. | .. | | | | . . . | . . . | | . . . | . . . | . . . | . . . | |
| .. | .. | .. | .. | VACCINATION | | | . . . | . . . | Inst. | . . . | . . . | . . . | Inst'n. | |
| .. | .. | .. | .. | EXAMINATION. | | | . . . | . . . | | . . . | . . . | EX. | . . . | FINAL EXAMINATION. |
| .. | .. | .. | .. | DISPENS'Y AND HOSP. WORK. | | | * | * | | * | * | * | 92 wks. | *Refers to attend. on Med. and Surg. Prac. of Hosp. 3 winter and 2 sum. sessions. |

| | | |
|---|---|---|
| In Spring Course | *Recitations* | No information. |
| Bellevue Hospital | *Hospitals* | St. Bartholomew's Hospital. |
| At Hospital | *Dispensary* | At Hospital |
| 1 year | *Course, Preceptor* | 1½ years. |
| 2 or 3 years | *Course, College* | 2½ years. |
| | *Entrance examination* | Required. |
| 4 after 2d year | *Final examinations* | 3 subjects after 1st college year.<br>2 subjects after 2d college year.<br>3 subjects after 4th year of course. |
| 24 weeks | *Sessions* | *Winter session*, 22½ weeks. |
| 10 " | *Yearly* | *Summer session*, 12½ weeks. |
| 48 " | *Obligatory sessions* | Three winter, 2 summer, = 92 weeks. |
| 50 | *No. of Instructors* | 46 |
| 441 | | |
| 137 | | |
| $325 | *Total Fees* | $850, including examinations. |
| Hospital | | |
| Buildings | | |
| $20,000 (?) | | |

NOTE.—It will be urged by those who decry our methods and our institutions, that few English students get through on the minimum requirements of 4 years, of which 1½ may be in private pupilage. The same may be said of many American Colleges. In the Cooper, last year, the graduating class included one 5 year student, and three who spent 4 years in the school, some per force, some voluntarily.

The Phys. and Surg. of New York is notoriously stiff in its final examinations, many failing every year, yet it had the largest class in the U. S. in 1888–89, numbering in that year 809, speaking well for the American medical student.

quacks, charlatans, and low class colleges. It clearly is not for want of degree granting colleges that the American doctor is less informed than his brethren in other countries, for it seems that, taking the average of all other countries as a fair average, there are schools enough in America to educate medical men for 300,000,000 people, but in most of them the standards for matriculation and graduation have been put down so low as to make an American diploma almost a reproach in other countries. It will be remembered that Dr. Rauch, of the Illinois Board of Health, visited Montreal during the small-pox epidemic that raged in this city some months ago. Dr. Rauch was able to speak in terms of high commendation of the general sanitary regulations of Montreal, and the means it has at command for coping with zymotic disease. Dr. Rauch, it seems, put up a young journalist of Springfield, Ill., to try for a medical diploma from the Bellevue Medical College, Boston, Mass., the President of which is a rabid anti-vaccinationist. The diploma was granted and the reader will be interested by the perusal of the thesis on the strength of which this license to kill was issued.

with their method of education. I have arranged this part of the table according to my most careful study of the recent regulations (1888–89). In the English table a figure not carried into the total column signifies that, though taught in the school, that particular subject is not required by the regulations for the final examination.

SAM'L O. L. POTTER.

330 Sutter St., San Francisco, May 1, 1890.

'VACCINATION.

'The Grate increase of Disease in thease Late years Calls for Explanation Undoubtedly the Doctors of this day is to blame for very much of it. But more than any-

thing Else in my opinion is the Inseartion into the Pure Blood and Vitle fluid of our Inosent offspring of that vile Diseas of the animals cowpox So grate has the Curse Became that Privelidges of School Edication is denied in this and Many other States to those who wisely refuse to Submit to this Curse that is just a Peace of the Nonsensikal Medica teachings of the Day when Theory and Imagination Rool instead of Practical Expearance and which keaps its Studends in close Confinement a Big part of three or four years to hear the Nonsens which is thear peddled out to them consumtion Siffles and Skin Disease Runn Wild among the people This calls for a Strong Kick on the Part of our noble Profession which should seak to build upp the Health and Streangth of the People instedd of Planting the seeds of Diseas in them To Prove that Vacination Don't do no good we nead ondly to say that Thear has Been More Small Pox in this Place in the last year than thear was in the last Nineteen or Twenty year and more deaths from it I neadnt say no more About a Thing that is so Plane to Eny thinking Man or Woman Eather we should all Band ourselves togather in all Parts of the Country to Shutt off this Cursed Practiss the People Should be Tought Better But the Days is Cumming when Enlightenment will take the Place of Ignoranse and Prejudice and when that Time Comes these fannatics who live by Scaring People will have to step aside and Vacination will not be Heard of any more.'"

[To save us in England from the deluge of worthless American degrees, there ought at least to be a law compelling the publication after the degree of the source whence it was obtained.]"—*Exch.*

The tone of this publication is exceedingly aggravating, putting, as it does, an impudent forgery and fraud upon a level with our medical schools, and insinuating that such degrees are "American Degrees," as it does by its title, as also by the mis statements of its correspondent. If, in some backwards settlement of Canada or Australia, named *Oxford*, some two or three men should get together and style themselves a University, "*The University of Oxford*," issue diplomas to whoever would buy, making M.D.s, D.D.s, L.L.D.s, etc., and when the fraud was exposed and published, an American medical journal should quote the circumstance as an illustration of the value of English degrees, the case would be an exact parallel. When referring to the Buchanan fraud in Philadelphia, most Englishmen who know of it will use it as an illustration of the methods of Philadelphia medical schools; but will not tell that Dr. Buchanan was a graduate of the Faculty of Physicians and Surgeons of Glasgow, in Scotland;—that every one of his associate professors were Methodist Ministers, not physicians,—and that he and they are now doing a long term in the penitentiary for their fraudulent practices. As remarked before, imperial governments cannot entirely stop the practices of counterfeiting and smuggling, how then can we, without power of any kind, prevent forgery in our professional diplomas.

England and the United States should stand hand in hand, and shoulder to shoulder, against all the world besides; and if they only would do so, no power on earth could injure either of them. But depreciation of our institutions by English writers makes Americans sulky and "ugly," as they say themselves, and they will not *try* to rectify erroneous beliefs regarding matters which should be better understood. They look to England as to a mother, and expect her praise and her encouragement in their progress upward and onward. They have so far received Englishmen as honored elder brothers; but some day they will turn upon this persistent misrepresentation, stop all free trade in medical diplomas of foreign manufacture; and, following Canada's example, force other nations to respect their educational institutions.

The history of the Canadian episode is very instructive in this connection. A few years ago some graduates of her medical schools were refused registration in England upon their Canadian diplomas; whereupon Canada, with becoming self-respect, passed laws requiring English medical immigrants to submit to local examination before being licensed to practice in Canada. At the very next session of the British parliament the government brought in a bill, which passed, and is now the law of Great Britain. This bill provides for the registration in Great Britain of graduates in medicine of *any country* which grants reciprocal rights to British graduates, provided,—that the Queen in Council has named a day upon which said law shall take effect for each State or Country. The Queen in Council speedily named a day for Canada, but has never yet done so for any State in the American Union. It would be interesting to see whether she would propose to do so for any American State which should legislate against the recognition of British medical diplomas.

When our difficulties are taken into consideration,—when it is remembered that every American State, young or old, governs its own educational matters;—that the central government has no control whatever over the practice of any profession, except in its own courts, and in its own military and naval establishments;—that, as yet, we have no endowments for our medical colleges;—that, under our democratic institutions every medical sect or delusion can obtain sufficient following to secure from the politicians charters for so-called colleges, with the right to issue diplomas;—that we have three distinct bodies of medical practitioners, recognized by law, viz.: the Regular, the Homœopathic, and the so-called Eclectic;—that every effort to secure the passage of laws to control medical practice and education is fought bitterly by two of these bodies, and by spiritualists, faith-healers, magnetic healers, Christian Scientists, metaphysical healers, electro-biologists, *et hoc genus omne*;—that juries in the large cities are often composed of the scum of European humanity;—that such juries will not convict the most flagrant violators of medical laws;—it is really a wonder that we have done as well as we have in this matter of medical education. Only by the

self-sacrificing labor of the much-abused Professors in our great schools, have these institutions reached the high standard which is conceded to them by all fair-minded investigators.

One fact, which is patent to all close observers of matters medical, and which is highly complimentary to American graduates, is that the great majority of the quackish members of the profession in this country is composed of foreign graduates. Leaving out of consideration the openly-acknowledged quacks, many of whom append foreign titles to their names, but whose claims cannot be verified, and looking at the recognized medical men who, in every community, are running in non-ethical paths, we will find 99 per cent. of them to be graduates of foreign schools. The men who erect blazing signs, brass hands with index fingers pointing from the side-walks to their offices;—who drive foreign-looking vehicles, and carry therein terrier dogs trained to bark at the passers-by;—who falsely claim to have received the Victoria Cross and other decorations before emigrating to America;—who wear decolletè shirts, and dress in the most blazè style;—who cover their waiting room walls with framed certificates from every dispensary they ever stuck their noses into, and fill their waiting-room chairs with charity patients as stool-pigeons for others;—who employ "cappers" and "steerers" at the railroad depôts and steamer landings;—who dazzle their callers' eyes with big brass microscopes, and pneumatic cabinets as large as a hotel safe;—who organize clubs for medical treatment, and take obstetrical cases at $10. each, including nine days' attendance;—who seek appointments to Sons of St. George, Caledonian Societies, Turner-bunds, and Base-ball clubs, as physicians thereto;—in one word the men who are daily prostituting their noble profession, degrading it to the level of a trade, by adopting trade methods in lieu of professional dignity;—these are almost invariably medical immigrants, graduates of foreign medical schools. Not daring to practice such devices at home, they come to our hospitable shores, and with haughty contempt for our generous and free institutions, assume that "every thing goes, don't you know, in America!"

I would propose two remedial measures for these difficulties. The first is a suggestion that the American Medical Association memorialize Congress to institute, establish, and maintain, a *National Medical College* in Washington, for post-graduate special instruction and training for one year, of candidates for the Medical Services of the Army and Navy. That such school be open to all graduates of American Medical Colleges in good standing without regard to age;—that, the final examination passed, its diploma shall qualify for the Army and Navy for those within the proper limit of age;—and for all others shall qualify for appointments on Pension Boards, the Indian Reservations, the Marine-Hospital Service, Surgeons in the State Militia, Acting Assistant Surgeons in all the services, etc. That all such graduates thereof be enrolled in an "*Army Medical Reserve Corps*," from which alone the government would appoint extra Surgeons in the Army and Navy in case of need, up to certain ages. Such a National Medical school would prove of inestimable value in consolidating and regulating the standards and requirements of our State medical colleges; and by establishing a fixed standard of professional acquirements, would be of great benefit to the people at large, and to the medical profession, without infringing on the rights of the States in educational matters.

Secondly—I would suggest that the American Medical Association proceed, by committee, to endeavor to obtain from England full legal and professional recognition for such of the graduates of our best schools who have evidence of equal preliminary education, and of four years' study before graduation, by showing to the English authorities that our 3-years' course is fully equal to their 4-years' one. This recognition, if obtained, would bind the medical men of the two nations in close bonds of sympathetic union; and do much towards advancing the pan-Anglo-Saxon Confederation which must some day be realized. It would stimulate our second-grade schools to the early adoption of a higher standard. It would make London, instead of Berlin and Vienna, the Mecca of our young graduates; and the resort of our weary practitioners, when seeking to combine relaxation with study in the great world-centres. These men would cross the ocean with lighter hearts if they could feel that as graduates of Harvard, Jefferson, Cooper, Physicians and Surgeons of New York, Bellevue, etc., they could enter the wards of the London hospitals with as much respect from the natives as an L. S. A. receives in those of Philadelphia or New York. Such recognition would enable our Thomases, Da Costas, Pancoasts, Bartholows, Lanes, Senns, Van Burens, Flints, etc., our princes of medicine and surgery, to feel that no suspicion rested upon them, when, as American Professors, they entered the halls of an English college. It would only be a simple act of justice to a national body of men which has done as much for medical science, and scored as many medical and surgical triumphs, as any other body of medical men throughout the world. There is no nation on the face of the earth so ready to do right, or right a wrong, as the English nation, even in the face of national humiliation, as seen in their treatment of the Boers and the Irish. Surely English medical men will prove no less tardy in this respect, if their past errors are shown to them in a clear and self-luminous light!

# HYSTERICAL APHONIA, OR PARALYSIS OF THE LATERAL CRICO-ARYTENOID MUSCLES.

*Read in the Section of Laryngology and Otology at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.*

BY E. FLETCHER INGALS, A.M., M.D.,
OF CHICAGO.

One of the most interesting manifestations of the group of symptoms which make up what is termed hysteria, is paralysis of the adductor muscles of the vocal cords. It is a singular fact in accordance with what might be termed a conservative law of pathological selection, that in nerve trunks not larger than a small knitting needle, in this disease only those fibres are involved which supply the adductor muscles, while adjoining fibres supplying the abductor muscles are not implicated. This is peculiarly fortunate, for otherwise this merely annoying affection would often become a fatal malady.

This affection usually occurs in young women, but is sometimes observed later in life and has been met with even in children. Although termed hysterical, cases are not very infrequent among men.

As the name implies, the disease is usually associated with some form of hysteria, but it sometimes follows violent inflammation of the larynx, in which the congestion disappears but the paralysis remains for some time afterwards. It is occasionally the result of lead or arsenical poisoning; and it has been claimed that exposure to draughts, or even the taking of cold drinks, may in rare instances be the exciting cause. Gerhardt believes that it is frequently of rheumatic origin. I have recently seen two cases immediately following accidents, in one of which there was simply a shock with severe fright, while in the other there was said to have been a fracture of the cricoid cartilage. In this latter the paralysis remained many weeks after all evidences of fracture had disappeared.

Sir Morell Mackenzie states that purely functional aphonia is common in the second and third stages of phthisis, a fact which should cause us to carefully examine the lungs of all patients suffering from loss of voice.

Hysterical aphonia is usually suddenly developed, sometimes shortly after exciting causes which may be easily detected, but frequently these patients waken in the morning to find the power of speech gone, although phonation was perfect when they went to sleep. It is a peculiar characteristic of the affection that often only the voluntary power of phonation is lost, while the involuntary movements, as in sneezing and coughing, remain nearly normal. In these cases the sound in laughing may or may not be lost, as it is more a voluntary act.

On inspection the larynx usually has a normal appearance, though sometimes moderate congestion and some swelling are present when the trouble has been preceded by catarrhal inflammation. In some instances the cords remain completely abducted and entirely motionless, on attempts at phonation; in others there is a considerable movement, but the edges are not properly approximated, while in rare cases, in which the hysterical element predominates, the cords approximate naturally but no sound escapes. In some instances a large triangular opening is left at the posterior end of the glottis, due to paralysis of the arytenoideus muscle, though the lateral adductors may close the anterior portion more or less perfectly.

There is usually no difficulty in making an accurate diagnosis if the larynx is properly inspected, but there are some cases of acute catarrhal laryngitis in which paresis of the muscles occurs a short time before congestion has taken place, and these, excepting for their history, might be easily mistaken for functional aphonia. In pulmonary tuberculosis the voice not infrequently becomes very weak, or it may be entirely lost. Many of these cases are doubtless functional, as suggested by Sir Morell Mackenzie, but probably some of them are due to impairment of the recurrent laryngeal nerve resulting from the tuberculous process. Mechanical impediments may interfere with proper closure of the cords; for example, swelling of the mucous membrane, neoplasm, or partial or complete anchylosis of the cartilaginous articulations. These, however, can usually be readily distinguished by a careful laryngoscopic examination.

The prognosis as regards time varies greatly. Some cases respond promptly to treatment or even to the first examination so that the patient may leave the physician's office talking naturally after his first consultation. In these cases the symptoms may not return, though usually the attacks recur two or three times before a cure is effected. In others, weeks, months, or even years may elapse before the voice is thoroughly restored, but eventually nearly all cases may be cured. It is important, in the beginning, to assure patients of ultimate recovery but also, at least after the first treatment, to tell them that the exact length of time cannot be predicted.

Many forms of treatment have been adopted, and the most indifferent are occasionally successful. Sometimes with impressible patients even the laryngoscopic examination is all that is necessary. Slightly stimulating sprays, pigments, or powders are beneficial, especially when catarrhal inflammation exists, and they are doubtless useful for their psychical effects. Electrical stimulation of the affected muscles and nerves is advantageous in protracted cases. The most important part of the treatment consists in securing proper hygienic surroundings and diet, and the

administration of simple bitter tonics, or iron, quinine, arsenic, and strychnia. The last in full doses has seemed to me of more value than all the others. I believe that delay in effecting a cure often results from our timidity in the administration of this powerful nervous tonic. In the majority of cases the common doses of one-thirtieth or even one-twenty-fourth of a grain of sulphate of strychnia have little or no influence on the disease. These patients seem particularly tolerant of this remedy and often experience no physiological effects until heroic doses are resorted to. This is happily illustrated in one of the cases which I am about to report. In using electricity I prefer the static variety applied externally. Next to it I value the faradic current, and lastly the galvanic. Either of the latter may sometimes be successfully employed externally, but in obstinate cases at least one electrode should be applied within the larynx directly to the affected muscles. When the paralysis is of long standing, and the muscles consequently partially atrophied, this latter course seems to be especially desirable. It is unnecessary for me to say anything regarding the mode of administration of quinine, arsenic, and iron, but I wish to call your especial attention to the use of strychnia in large doses. This remedy should be given at first in small doses but these should be steadily increased until its physiological effects appear. I begin with one-thirtieth of a grain three times a day, and have the dose steadily increased from day to day or every second or third day, usually by the addition of one-sixtieth of a grain once, twice or thrice daily until the 24th, 20th, 18th, 15th, 12th, 10th, or even 8th of a grain is taken three times a day. It has been a surprise to me that most of these patients will take one-tenth or one-eighth of a grain three times a day before any of the constitutional effects are manifested. I tell the patients what they are taking and what physiological effects may be expected, and then instruct them to reduce the dose or discontinue the use of the remedy as soon as these appear. It would undoubtedly be safer to prescribe these large doses in solution, but owing to the intense bitterness of the drug it is difficult to get the patient to take it regularly in this way, therefore, when the digestive organs are in fair condition I have risked either the small gelatine-coated pellets or freshly prepared capsules, but owing to the varying degree of solubility of the gelatine, I think the tablet triturates might be preferable. I have no fear of the so-called cumulative effects of the drug. It may be given alone or in combination with other remedies. I have had several cases in which from one-tenth to one-eighth of a grain had to be given three times daily, before the slightest constitutional effect could be detected. And until these occur but little benefit has been experienced. As soon as twitching or stiffness of the muscles or intense nervousness is noted, the dose should be reduced to that taken one or two days previously, and afterward, owing to the increased susceptibility of the nervous system, it may be necessary to still further diminish the quantity from time to time, but the remedy must be continued in doses as large as can be borne for several weeks in order to prevent recurrence of the attack. The necessity for this is well illustrated in one of the cases that I am about to report, where it was not difficult to restore the voice but in which it was found impossible to maintain it for any length of time, until the heroic doses of strychnine were adopted.

While this course of treatment has been attended by the happiest results, I must urge those who try it to watch the effects carefully and to be sure that the drug is properly dispensed.

From many histories which I have of private patients affected by this disease, I have selected five which I think will be of special interest.

*Case 1.*—E. T. A., male, æt. 39. The patient came to me with a history of having lost his voice about three weeks previously while suffering from a bilious attack which immediately followed a sore throat from an ordinary cold. His father had died from throat trouble and a paternal uncle had been obliged to give up preaching from a similar cause. The general health was reported as good as normal but the patient did not have a robust appearance. He could only speak in a whisper.

I found on attempted phonation that the left cord remained in the cadaveric position, but the right was brought within about two millimeters of the mesian line. There was no congestion or swelling of the larynx. I used the static current externally and found that the patient was able to articulate quite distinctly at the time, though he resumed his whispering voice immediately afterward. I ordered strychnia sulphate one-thirtieth grain three times a day. Five days later the voice was much better. The strychnia was then increased to one-fifteenth grain and static electricity was repeated. Two days afterwards he was not quite so well. At this time I ordered quininia and iron in medium doses, continued the strychnia and repeated the application of electricity. Five days later—voice a trifle better but larynx appeared the same,—applied the faradic current by an endo-laryngeal electrode. Patient saw me four or five times afterward at intervals of four or five days when essentially the same treatment was pursued but the strychnia increased to one-tenth grain. He then left the city for a few weeks and on his return, four weeks later, I observed that on attempted phonation the left cord was crescentic but remained at the side of the larynx, and the right cord passed about four mm. beyond the mesian line leaving a chink about three mm. in width. He was not treated

frequently but the strychnia was continued in doses of one-tenth grain three times a day for about six weeks; making, in all, about four weeks during which he took one-fifteenth grain of strychnia three times a day, and ten weeks in which he took one-tenth grain three times a day; but he never felt its physiological effects. He then stopped taking medicine and for a couple of weeks patronized one of the popular superstitions of the day (Christian Science). After ten days of this, his voice returned and five days later was as good as ever. I examined his larynx six weeks later, at which time he said the voice was natural. I found the left vocal cord paralyzed in the cadaveric condition, slightly crescentic in outline. On phonation the right cord passed over to the left side nearly meeting the paralyzed cord so as to leave a chink not more than a mm. in width.

This case is of special interest from the probability that functional paralysis of the right cord was superadded to permanent paralysis of the left, the latter having never attracted the patient's attention. Of course there is no absolute proof of this condition but from the voice having been weak before the aphonia and from the fact that the paralysis of the left cord continued six weeks after his voice was regained and seemed to him normal, the conclusion seems justifiable.

*Case 2.*—O. H. J., male, æt. 38. This patient came to me from Wisconsin, in the early part of February, with the following history: About three weeks previously he had an attack of influenza, and after five days suddenly found himself unable to speak. The next morning he was able to talk aloud for about an hour when his voice again left him. The following day he had the same experience, but after that he had been unable to speak louder than a whisper up to the time of consulting me. He was not nervous, he slept well, his appetite and digestion were good, and he had the appearance of perfect health. The vocal cords were of normal appearance but did not move when I asked him to phonate. I applied static electricity externally over the larynx, directing him at the same time to pronounce the letter A, which he did aloud and distinctly. There was no return of the aphonia. He was given strychnia to be taken a few days in doses of one-twentieth of a grain three times daily. Four days later he returned to his home perfectly well.

This case illustrates the rapidity with which some of these can be cured.

*Case 3.*—M. F., æt. 20. This patient came to me from Michigan, with the following history: Eleven weeks previously in an accident his head was thrown violently backward in a way that caused some injury to the larynx. He had found himself unable to speak after the accident. Dr. Parks, who saw the case sometime afterward, said there had been a fracture of the cricoid cartilage. When the patient came to me he was apparently in perfect health but could not speak excepting in a whisper. He coughed aloud, but said there was no sound when he attempted to laugh.

Upon a laryngoscopic examination, I found the larynx and trachea normal. The cords were closely approximated during attempted phonation but no sound was emitted. There seemed no reason for loss of voice excepting lack of effort upon the patient's part. No treatment was instituted as the patient had merely been sent to me for examination.

*Case 4.*—Miss W. A., æt. 23. This patient came to me from one of the central cities of Illinois, with the following history: During the previous years she had lost her voice sixteen times but had each time soon recovered it. The present attack of aphonia she attributed to having been thrown from a buggy four weeks previously, since which time she had been unable to speak louder than a mere whisper, though she coughed and laughed aloud.

Upon directing her to speak while I made a laryngoscopic examination, I found she could easily sound aloud the letter A, but ordinarily the vocal cords upon attempted phonation left a space about two mm. in width between them. I applied static electricity to the larynx directing her to sound the letter A during the application. This she did two or three times but immediately resumed her whispering. About an hour later her voice returned and remained for about twenty-six hours when it was again lost. She suffered from insomnia, was despondent, and complained of being continually tired. She was given sulphonal which acted well in producing sleep, and strychnia, iron and quinia with other tonics for her general condition. From this time on she visited my office about every second day for seven weeks, and at nearly every treatment her voice was restored, but it would fail again after a few hours. I then began to increase the dose of strychnia, and in nine days I had raised it from one-twentieth of a grain three times a day to one-tenth of a grain four times a day. While taking this quantity, when her voice was restored it did not again fail. About two weeks later the strychnia had to be diminished to one-tenth of a grain three times a day because it caused slight twitching of the muscles of the eyes. She was now feeling more cheerful, had a fair appetite, slept very well, and did not complain of the constant weariness which had troubled her so long. Her voice remained permanent. Two weeks later the strychnia was reduced to one-fifteenth grain three times a day and she returned to her home apparently perfectly well. She has recently written me that she again lost her voice about three weeks later, that is, seven weeks

after it had last returned. I advised her to again increase the doses of strychnia.

This case illustrates the difficulties that will be met in obstinate cases, and shows clearly that in some of these there is really no paralysis, but simply an insufficient effort on the patient's part.

*Case 5.*—Miss D. M. D., æt. 29, came to me with the following history: Six years previously while suffering from an attack of pneumonia she had become hoarse and remained so for two days. The morning afterward she found herself unable to speak excepting in a whisper, and her voice had never since returned. Her grandparents and parents were long-lived, but a brother and sister were said to have had consumption. She had twice suffered from pneumonia.

I found her general health good, though she was not very strong. She complained of some pain in the right mammary region and of some shortness of breath on exertion, with an occasional attack of cough at night. The appetite was fair, and digestion normal. Pulse 100. There was no fever. She could talk only in a faint whisper. She complained of some pain in the larynx when swallowing, and of a sense of dryness or tightness with considerable pain after having had to talk for any length of time. The cords were of a light pink color and did not approximate closely, a chink of about three millimetres in width being left on attempted phonation. I ordered a tonic pill of quinia, iron and strychnia, and applied static electricity over the larynx. Subsequently the faradic current was applied to the cords from time to time. The patient continued to take the internal remedies, but only visited me at irregular intervals during the next eleven months, when I find it noted that she had much improved, and was frequently able to speak a few words in a loud voice. Six weeks later, she could talk in an undertone the greater part of the time, and three months afterward she was able to talk aloud all of the time, though not with a very intense voice. At this time the cords were properly approximated during phonation. I noticed in this case that the ventricular bands always closed before the true cords on phonation. Eighteen months after the beginning of treatment she was able to talk aloud.

In this case the aphonia had persisted for six years before the patient came under my care. She was treated on an average of two or three times a month for eleven months before any decided improvement could be observed, then she began to speak a few words at a time in an undertone. I did not see her again for three months, but under the persistent use of comparatively large doses of strichnia (as large as she could take without twitching of the muscles) and small doses of quinia and iron, her voice steadily improved until at the end of eighteen months from the beginning of the treatment, she was pronounced cured.

## A NEW OPERATION FOR PROLAPSUS OF THE ANTERIOR VAGINAL WALL.

*Read in the Section of Obstetrics and Diseases of Women, at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.*

BY ANDREW F. CURRIER, M.D.,
OF NEW YORK.

With the exception of vesico-vaginal fistula the lesions of the anterior vaginal wall are more or less ignored by the majority of the profession, or if not ignored are considered of less importance than they actually are. Especially is this the case with prolapsus, which may exist alone or in connection with descent of the bladder, uterus, posterior wall or rectum. Prolapse of the vagina does not necessarily signify prolapse of the bladder and rectum, and errors of diagnosis in this direction are frequently made through examinations which are not sufficiently careful. In either case the vaginal lesion demands operative treatment, but the symptoms are usually much more urgent if rectum or bladder has descended than when this is not the case. The vaginal wall is one of the means by which the weight of the bladder is sustained and such portions of the intestines as may be superimposed, and the medium through which the resultant of the forces exerted by the contraction of the abdominal muscles passes. The structures of the pelvic floor may be so disorganized as to be of little value as a means of support, but if the integrity of the anterior wall is preserved the latter may act as an efficient barrier and support for a long time.

The causes which lead to prolapsus of the anterior wall are not limited to the parturient process either directly or indirectly. The lesion may occur in the young and nulliparous in connection with general relaxation of muscular fibre; it may be the consequence of straining at stool in connection with persistent constipation, or it may occur in the aged in connection with general atrophy of the muscular tissue. A prolonged second stage of labor with subsequent imperfect involution may be its efficient cause, or it may occur in women who have had a number of pregnancies in rapid succession, and in whom the conditions of life and health have been such as to preclude complete involution.

It has two types: In one there is atrophy of muscular fibre and diminution in the thickness of the entire structure, there is also protrusion of the bladder and disturbance of its functions, especially in those cases in which there is coexisting cough or constipation. In the other type the mucous membrane of the vagina is thickened and its connective tissue hypertrophied, but there is no protrusion of the bladder, though there may be extensive prolapsus of the vaginal wall.

The object of an operation on this structure is to restore it so that it may accomplish its normal functions. This implies restoration of normal dimen-

sions longitudinally as well as laterally. Operations which have heretofore been devised have tended almost exclusively to contract the wall only in its lateral or transverse dimensions, the old operation of Dieffenbach being the type of such procedures. The vagina is thus made narrower but also somewhat longer, and the great strain which is placed upon a long line of union is not infrequently sufficient to rupture it and restore the former diseased condition in an exaggerated form. The method of Emmet of burying a quantity of undenuded tissue beneath his line of union seems irrational, for while this tissue may atrophy it may also suffer decomposition. It also imposes a great strain upon a narrow line of union, a strain which it will not bear in all cases, as experience shows.

The operation which is proposed as a substitute for previous methods aims to contract the vaginal wall to a sufficient extent both in length and breadth, and to distribute the tension over two lines of union at right angles to each other. It was demonstrated before the Obstetric Section of the New York Academy of Medicine in January of this year, and on several occasions before the class at the New York Post-Graduate School and Hospital. I have thus far performed it three times, in each case before the class of the last named institution. The conditions differed in every case and in all of them the results have been entirely satisfactory. The operations were performed in December, 1889, January and March, 1890. All the patients have been seen within a few days, and there is as yet no indication in either case that the benefit derived from the operation will not be permanent.

In performing the operation, an elliptical strip of mucous membrane of sufficiently large area is first removed from the anterior wall as in the Dieffenbach and other operations, and then another elliptical strip at right angles to the first, the major axes of the two ellipses intersecting at their middle point. This tissue is best removed with forceps and scalpel, and in favorable cases, the outline of the ellipses having been made by suitable incisions, the tissue can be unrolled or torn off upon a tissue forceps with broad grip. I have had one made for this purpose. In cases in which there is protrusion of the bladder the dissection must be made with great care to avoid wounding that viscus. The hæmorrhage is sometimes considerable, for the bladder wall is very vascular, but it is mostly venous and stops as soon as the wound is closed. Catgut is used in closing the wound, No. 2 or No. 3 being used according to the thickness of the mucous membrane. Continuous sutures are used and they are buried in the connective tissue if that is thick enough to warrant it, otherwise the suture is carried directly from edge to edge of the wound, the needle entering and issuing from the mucous membrane about ⅛ of an inch from the edge. A fine slightly curved needle is used about 1¼ inch in length. That portion of the wound nearest the cervix is first closed, the suturing being continued as far as the junction of the longitudinal with the transverse ellipse. Then, with another needle and suture, the portion of the wound nearest the meatus urinarius is closed, the suturing being continued as far as the junction of that portion of the longitudinal with the transverse ellipse. Then, in precisely the same manner as before, the transverse segments of the wound are closed, and the two sutures are finally tied together at the middle point of the entire wound. The result is that the vagina is narrowed and also shortened to the desired extent and the tension is evenly distributed over two lines of union which cut each other at right angles in the middle point. The wound may be painted with iodoform collodion or left without any dressing whatsoever. The patient must lie quietly upon her back for a week, and by that time the wound will almost certainly be firmly healed, for the conditions of drainage are all that could be desired, and the vascularity of the parts is ample. If the patient suffers from severe cough the operation should be deferred, for the strain upon the wound induced by coughing may be sufficient to tear out the sutures. In one of my cases the coughing was intense and harassing, but the result has been all that could be desired. I would be unwilling, however, to take such a risk again.

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## FUNCTIONAL NERVOUS DISEASES OF REFLEX ORIGIN.

*Read in the Section of Ophthalmology at the Forty-first Annual Meeting of the American Medical Association, held in Nashville, Tenn., May 21, 1890.*

BY ALBERT RUFUS BAKER, M.D.,

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If one-half that is claimed by Dr. George T. Stevens be true,—viz.: That nearly all headaches, neuralgias, almost all cases of chorea, and 50 per cent. of all cases of epilepsy are due to incoördination of muscles of the eyeball, the subject is one of momentous importance to every general practitioner of medicine, as well as to the surgeon and specialist. That there is a grain of truth in his observations, I have no doubt, but it cannot be separated from the chaff by positive declarations pro and con, without first being investigated by impartial, unprejudiced careful scientific observers.

The position Dr. Stevens occupies in New York is an anomalous one; if I am correctly informed he went there a comparative stranger, a few years since, from Albany where he enjoyed a fair, local special practice. Although he had been a regular contributor to the medical periodicals his reputation was not such as to gain him the

immediate confidence of a large number of specialists or general practitioners in New York City. His contributions were mostly on the subject of muscular asthenopia, and eye strain, but were not given much serious consideration until after the publication of his book on "Functional Nervous Diseases," which was awarded the first prize by the Belgian society. Instead of candidly investigating the merits of the subject, many of the leading ophthalmologists and neurologists passed sentence upon his work, declaring his statistics to be manufactured and his conclusions preposterous; but notwithstanding this verdict, Stevens continued to read papers before the medical societies, and to contribute articles to the medical journals until a few physicians became at least partial converts to his views.

About two years ago, the New York Neurological Society appointed a committee to investigate the claims made by Stevens, as to the possibility of curing chorea and epilepsy by correcting ocular muscular defects. It was decided by the committee which consisted of five neurologists and general practitioners and two ophthalmologists, that the cases of epilepsy and chorea should be first examined by the committee, and the history and present condition recorded. The case should then be submitted to Dr. Stevens for treatment, and examined by the committee again before reporting the results to the society. Only fourteen suitable cases were submitted for treatment: five of chorea and nine of epilepsy. Of these cases six were reported as improved, seven unimproved, and one unknown. Notwithstanding the committee express the opinion that the "method of Dr. Stevens does not afford a sufficient degree of relief to warrant its adoption or recommendation to the members of the Neurological Society as a means of cure," the results are certainly as good if not better than those obtained by other methods of treatment.

The November number of the *Journal of Nervous and Mental Diseases*, is devoted entirely to the discussion of the subject. The position of Dr. Stevens is somewhat similar to that occupied by Dr. Horace Green in 1857, before the New York Academy of Medicine, before which he demonstrated the possibility of intra-laryngeal treatment; which resulted in the split of that society, the resulting wounds of which have only recently been healed; and no doubt well remembered by many of the older members of this society.

The subject of peripheral nerve irritation is an old one. It is now conceded that many headaches are due to nervous disturbances as the result of errors of refraction. Facial neuralgia from diseased teeth is of common occurrence. We may also mention the bowel troubles so common in children as the result of dentition. Ear cough is another illustration of the frequent occurrence of functional nervous disturbance from peripheral nervous irritation, and was given much attention by the older writers one of whom, wrote a large book on this subject, in which he demonstrated to his own satisfaction at least, that vomiting, vertigo, cough, paralysis, insanity and nearly all kinds of laryngeal disease was due to the irritation caused by plugs of wax in the ear.

More recently it has been claimed that asthma and many other respiratory neuroses are due to peripheral irritation as the result of nasal obstruction. We may also mention the intestinal irritation of worms, and that due to fissure and fistula of the rectum.

"Genital irritation was urged at one time by a distinguished surgeon as a cause of paralysis of the extremities, and for a time circumcision was regarded as a necessary preliminary procedure indispensable in the treatment of many nervous diseases, among which infantile paralysis and spastic paraplegia may be named. Later the influence of congential stricture of the uretha was brought forward as a cause of many neuroses and of temporary states of nervous excitability; and not long after, the claims of the genital organs of women rose in the estimation of the profession as fertile sources of nervous disease."[1] Other familiar examples of nervous phenomena of reflex origin are the vomiting of pregnancy, pain in the knee, from morbus coxarius, pain in the penis, from irritation of stone, etc.

These are among the more common functional diseases of reflex origin, and every practitioner of medicine could make additions of unusual cases from his own experience. The essayist reported a case some years since, in the *Medical Record* of a young girl whose hair on the top of the head did not grow over an inch in length, but which grew naturally after correcting an error of refraction with spectacles. Recently he met a case of sudden deafness as the result of acute inflammation of the Eustachian tube in which there was complete aphonia, and the boy only began to speak slowly after the hearing was fully restored. A few years since he was consulted by a woman with a plug of wax in the ear, and a bald spot on the side of the head as large as the palm of the hand; after the removal of the wax the hair grew again. A case of epilepsy has been reported as the result of polypus in the ear and cured by its removal.

These illustrations of unique cases of functional nervous diseases of reflex origin might be continued indefinitely; but these observations will serve to call your attention to the broad field which the subject covers.

Other phenomena of frequent occurrence are giddiness, vertigo, and vomiting; all of which have an intimate relation with eye strain, and are due to two causes: first, to the efforts necessary

[1] Starr, Medical Record.

to properly adjust the muscles of the eyeball in binocular vision; and second, to the muscular efforts made in accommodating the eye for objects at varying distances. Both these factors must be taken into consideration in every discussion of this subject. And here I believe is the weak point in nearly all the observations of Dr. Stevens and his followers. They have attributed all the functional nervous disturbances to the insufficiency or spasm of the muscles which move the eyeballs, and have almost entirely ignored the accommodation in the production of these functional neuroses. I believe that nearly all the troubles we have with the muscles of the eyeball are due to, and are the direct outgrowth of the errors of refraction. This is generaly recognized in cases of hypermetropia as a cause of strabismus.

In most cases of muscular asthenopia we have the same excessive nervous stimuli sent to one pair of muscles that we do in strabismus, and those patients who have not sacrificed binocular vision, consequently suffer from pain and other nervous disturbances, due to the conflicting efforts at accommodation on the one hand; and those of convergence on the other. It has been my experience not infrequently in cases of errors of refraction that after correcting the ametropia, to find, that while I had relieved the pain due to the efforts at accommodation, I had disturbed the equilibrium that had become established between the efforts of accommodation and those necessary for perfect binocular vision, and thus set up a train of symptoms almost, if not quite as annoying as those from which the patient suffered before. If the limits of this paper permitted I would be pleased to report a number of cases illustrating this point.

It is in the knowledge of this subject gained only by a large practice that the oculist who has had a wide experience, excels the beginner, and this is the reason why so often spectacles that are theoretically correct are rejected by the patient.

The dizziness which results from looking at a rapidly moving train of cars, while swinging, or from looking over a precipice, is due to the same excessive muscular efforts made necessary for the proper coördination of the eyeballs, and those of accommodation. The frequent instruction of stewards on board steamships to the passengers to keep their eyes shut while making their toilets and until they reach the deck, to prevent seasickness, is a practical illustration of this principle. The most essential factor in the cause of sea-sickness is due to the muscular efforts made necessary on shipboard in viewing objects at varying distances.

Persons suffering from astigmatism are peculiarly liable to giddiness and vertigo, undoubtedly due to these unusual muscular efforts. An astigmatic patient of mine, could not sew on striped goods; and was frequently caused to vomit while ironing such goods. Another said the mere mention of a barber's pole always caused a squamish sensation at the pit of his stomach. Another if walking behind a person with a striped dress on the street was always obliged to close his eyes or look in another direction to prevent falling. These cases were all cured by correcting the error of refraction. A statement made by an eminent oculist that if we, like the giant Cyclops, who assisted Vulcan in his workshop, had but one eye in the centre of his forehead, would not suffer from muscular asthenopia, is not strictly true, because we not infrequently meet persons who have but one eye, (or what is more frequent who use but one) who suffer from reflex nervous disease due to eye strain.

It is necessary, in order to secure binocular vision, to have the eyes so adjusted, that rays of light coming from an object are focused upon corresponding parts of the retina. For perfect vision it is necessary that they are focused upon the fovea centralis of each eye. The delicate muscular arrangement, which is necessary for changing the focus of one eye for near and distant objects is a complex one; but to keep both eyes fixed on objects at varying distances is much more so, and it is not difficult to understand how muscular disturbances might follow as the result of errors of refraction; or even in cases of emetropia in which unusual or prolonged work is demanded of the eyes.

Dr. Noyes says, "the acquisition of binocular vision belongs to the first months of life. Young infants roll their eyes about in the most inconsequential fashion, and when their visual vagaries give place to binocular fixation an important step has been gained in ocular and cerebral development. In some subjects this function is never acquired, in others it may be lost after having presumably been acquired. All cases of permanent strabismus are instances of suppressed, or of lost, or of undeveloped binocular vision."

Muscular insufficiencies is one of the most difficult parts to master of the entire subject of ophthalmology. The diagnosis is always difficult, and usually requires repeated examinations. It is not sufficient to correct manifest defects as revealed by the von Graefe test, but we must seek after masked insufficiencies of the ocular muscles as we do for masked errors of refraction by the use of atropia. Unfortunately we have no such reliable means of solving the former problem as we have the latter, by paralyzing the accommodation.

The most satisfactory discussion of this subject with which I am familiar is a paper by Dr. Noyes, entitled, "On the Tests for Muscular Asthenopia, and on the Insufficiency of the External Recti Muscles," which was presented to the Eighth International Medical Congress at Copenhagen, six years ago. It is exhaustive, scientific, based

upon a large number of cases, readily comprehended, and no list of outrageous new names to be remembered, such as heterophoria, orthophoria, esophoria, exophoria, hyperesophoria, etc., as are found in Dr. Stevens' work. On the whole, this contribution of Dr. Noyes is so much in advance of Dr. Stevens' book, both in time and every other commendable feature, that I have often wondered why Stevens is securing all the credit for work that was done so much better and earlier by Noyes.

It is necessary, in making these examinations, to find the amount of abduction and adduction both for distant and near points. In order to make these tests valuable it is necessary to have some physiological standard of adduction and abduction for comparison. A valuable contribution to this subject is given by Dr. H. S. Shell in the *American Journal of Medical Sciences*, October, 1878. He gives one table of twenty emetropes whose adductive power at the distance of 20 feet varied from 20° to 40°, and their abductive power varied from 4° to 16°; the average was for adduction, 29°; for abduction, 8¼°; the average ratio between them was as 100 to 28. It is difficult to determine what is the ordinary condition of the muscular apparatus for the individual, as what is the normal condition for one is abnormal for another; and for this reason repeated examinations are necessary, and they must be made with the most consummate care, or the most unfortunate mistakes will be made. Usually those whose adductive power is less than 8, and whose abductive power is over 28, may be assumed to have insufficiency of external recti muscles; and one whose adductive power is less than 28, and whose abductive power exceeds 9, may be assumed to have insufficiency of the internal recti.

This test of the muscular power I believe to be of more value than the equilibrium test of von Graefe. Some years since I instituted some tests as to the state of the muscles in persons who had normal vision. I found that only about one-half of those examined had perfect muscular equilibrium. Dr. Roosa, who has recently repeated these investigations, found that out of 103 subjects examined only seventeen were found to have muscular equilibrium. Rather a low percentage, I think. But of several hundred cases with *refractive error* in which I tested the muscular power, I found even a less number in which there was perfect muscular equilibrium.

It has been my practice for a number of years in all cases of muscular asthenopia in which the muscle at fault could not be readily determined, to resort to the use of atropia. This will reveal any latent error of refraction which may be the unsuspected cause of the asthenopia; but even though there be no error of refraction it puts the eye at rest, allays muscular irritability, and the investigation can be pursued with much greater ease and the results will be much more uniform.

The use of prisms for the correction of muscular insufficiencies on the whole, I have not found as valuable as I was led to suppose they would be from *a priori* reasoning. Nevertheless they are of very great benefit in many cases. They seldom can be worn stronger than 2° or 3° for each eye, but even in cases where the muscular defect is greater than this amount the comfort to the patient is very considerable. During the first twenty-four hours more or less discomfort is suffered, the patient has some uncertainty in judging of distances, and experiences some difficulty in walking, especially in ascending and decending stairs; but after the eyes become accustomed to the new adjustment the relief is very marked. If the prisms afford any permanent benefit the question of tenotomy ought to be considered.

The result of operative interference, if judiciously performed, is always more satisfactory than the wearing of prisms, which at best is only a poor crutch to lean upon for a time, and permanent cures can only be attained in many cases by making tenotomies.

As to the relief of headaches my experience would lead me to believe that a large number that can not be cured by correction of the error of refraction alone, can be relieved by the use of systematic muscular exercise, by prism, by tenotomies, or by a combination of all these methods. The same may be said to a limited extent of some cases of neuralgia, neurasthenia, chorea and epilepsy. But it is to be remembered in all these cases there is a neurotic temperament, that predisposes these patients to some form of neurotic disease. The peculiar form the disease may assume is often due to accidental causes, and this is the reason that when you cure these patients of one affection you are almost sure to have another follow, possibly in a distant organ. And thus it is that the occulist is reaping an abundant harvest from the fields already gleaned by the gynecologist, who has sewed up all the lacerated cervices, and repaired all the damaged perinei until the chastest maiden might envy the comely appearance of the genitalia of the most prolific matron. It may be true that these patients are relieved of side and back aches; it may be that their constipated bowels or irritable bladders perform their function better; yet these patients still suffer about the usual amount of pain and discomfort in the course of the year although it may be transferred to the head or eyes.

I am not prepared to state just what this neurotic habit is, but we are all familiar with its manifestations. With one it will be manifested by recurring attacks of sick headache; in another by a paroxysm of asthma or hay fever; in the female by painful menstruation or hysteria, and in others it may manifest itself as neuralgia, chorea or epilepsy. We specialists may lop off

a branch here and there, and we may be of real value to our patient in relieving him of some troublesome or painful symptom, but there is something more necessary—the patient needs treatment more than this or that annoying symptom. Let us then not ignore the general practitioner in his more responsible duty of correcting the general condition, which after all is the real cause of these nervous diseases of reflex origin.

DR. SCHWINITZ did not wish to discuss graduated tenotomies and their effect on so-called reflex neuroses. He wished to point out that the mere correction of a local irritation was by no means sufficient to obviate the nervous explosion supposed to be caused by the defect, because the lack of the control of the higher centres over the lower reflex mechanism, which is really at the bottom of the trouble, is not thus restored. The inference was plain that this must be treated by general measures.

He drew a comparison between the refraction of the eyes and equipoise of eye-muscles of choreic children and those of children not choreic, and showed that they were closely similar. He stated his belief that correction of the ocular difficulties was often followed by disappearance of the chorea, which, however, was liable to return, especially in the "chorea months," if the child was exposed to the same environment which was present at the original onset.

DR. LEARTUS CONNOR, of Detroit, Mich., said: In a careful study clinically of numerous cases during several years I have reached certain results: (1) Most cases with heterophoria accompanied by disturbances of the nervous system are relieved by a correction of the optical defects, plus a lowered state of the general constitution. By such a course most persons were entirely relieved, the eyes remaining in so perfect equilibrium as to warrant no further interference. (2) A very few cases were not so relieved and a tenotomy performed. Partial tenotomies were unsuccessful, and a complete tenotomy was finally performed. (3) Occasional cases are relieved by the use of correcting prisms; but generally they are simply temporary expedients. (4) The recent discussions of this subject have placed in our hands a means for meeting the needs of certain cases more satisfactory than we previously possessed.

DR. EDWARD JACKSON: The point that these conditions known as reflex neuroses are due to lack of control in the higher centres, is of sufficient importance to be emphasized. There are certain facts that emphasize it. In some cases, when no heterophoria is revealed by covering one eye, it still appears on using the diplopia test, indicating that the position of the eyes is thus shown to be not one of rest, but of a special action. The power of other muscles to adapt themselves to requirements made of them, if they receive proper innervation, would indicate, by analogy, such power on the part of the ocular muscles, and this is supported by experience in the performance of tenotomies for heterophoria.

DR. HOTZ wished to correct the statement that Stevens disregarded the effect of refractive errors on the nervous system, and only regarded muscular disturbances as a cause of functional nervous diseases. In his book and his journal articles Dr. Stevens has emphasized the importance of always first correcting errors of refraction. He gave tables showing the frequency of refractive errors alone producing headache, etc., which were relieved by correcting the ametropia. All oculists recognize the accommodation strain as a frequent cause of headache, and oculists have also always admitted that nervous symptoms can be produced by strain of the ocular muscles. The fact has never been denied, and the only question is to what extent and how frequently muscular strain is a cause of nervous disorders. It is a common occurrence that a man who is successful with a new mode of treatment is carried away by his enthusiasm, and so it may be that Dr. Stevens' claim may not be sustained by experience to its full extent. But whatever the verdict of the future may be, it will always give him credit for having widened an important field of investigation, for having directed our attention to the fact that difficulties in binocular fixation arise from other than the internal recti muscles more frequently than was ever thought of, and particularly that deviations of one visual line in the vertical plane occur and are a source of the most distressing asthenopic symptoms. The doctor here gave the history of a case of asthenopia which had received no benefit at all from the correction of a low degree of hyperop. astigm., though glasses had been used for four years. The correction of a slight degree of hyperphoria removed all asthenopic and nervous troubles, and the relief has been permanent since over two years, even though the patient has dispensed with her glasses. That many persons with heterophoria are not troubled with headache or other nervous symptoms, is no argument against the doctrine, for with the same logic you might deny the relation of hyperametropia to accommodative asthenopia because not every hyperametrope is troubled with it.

DR. MINNEY: I believe Dr. Stevens' claims are founded upon physiological principles, but his enthusiasm has carried him to the extreme. A case of mine was operated on for insufficiency by the doctor, and the patient thought she was cured. She cannot, however, use her eyes continuously. The operation has acted as a placebo, and with the care she has learned to take of her eyes she can use them longer; but I do not think it is due to the operation.

DR. BAKER, in response to Dr. Hotz, said that he did not intend to convey the impression that Dr. Stevens did not correct errors of refraction, which he does most thoroughly; but he protested against his giving all the credit to the results of an imaginary operation, and ignoring the benefit derived from the use of spectacles.

## A CASE OF SYMPATHETIC OPHTHALMIA TWO WEEKS AFTER ENUCLEATION OF THE INJURED EYE.

*Read in the Section of Ophthalmology, at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.*

BY GEO. H. GOODE, M.D.,
OF CINCINNATI, O.

The patient whose history I report was a boy 11 years of age. He was injured in a quarrel with another boy on the third day of last October, and was brought to my office immediately after the injury. He had been struck by a rock the size of a man's fist, and from the absence of any marks on the face must have received the full force of the blow in the eye. Examination showed a complete vertical rupture of the cornea and a slight extension of the wound into the sclerotic below. Exactly to what extent the contents of the globe had suffered it was impossible at the time to determine. The serious nature of the injury was explained to the friends, and the mere possibility of retaining the eyeball, though shrunken, was placed before them; while the probable necessity of its removal at any future time was impressed. The wound being free from anything which might retard its union, the course of treatment was an expectant one. The boy seemed to get along fairly well for a few days, there being very little inflammatory reaction. There was nothing further done for two weeks, but "waiting and seeing" what developments would take place. About that time the eye was quite painful to touch, and the prospect for a speedy subsidence of the inflammation was not very flattering. There was nothing in the condition of the uninjured eye to cause alarm, but nevertheless I advised the removal of the damaged eye, in order that the boy might be able to return to school, and especially that all future danger might be obviated. However, had I had more confidence in the friends giving the case the attention it needed I might have continued my efforts a little longer to save the injured eyeball.

The mother desiring a consultation, Dr. Robert Sattler was called, who advised the removal of the injured eye; which I did on the following day. There was nothing about the operation out of the ordinary, except that the corneal wound, which had not firmly closed, ruptured and rendered the enucleation a little more difficult. This being done, I felt that I could safely assure the mother that the boy had escaped the danger of future trouble. I, too, felt responsibility lifted from me, and little thought that the case was to prove one of the rare exceptions to the rule. Treating this case as any other after such an operation, after a week had elapsed, as there was nothing further to be done but await the proper time for the wearing of an artificial eye, I dismissed him temporarily. I was therefore surprised to see the boy return to my office at the end of the second week, with what his mother called "a cold in the right eye." I did not agree with her in her diagnosis, but recognized the fact that he had a well-marked iritis. A mydriatic produced an irregular dilatation of the pupil. After a short continuance of the atropine the synechiæ were relaxed and the pupil dilated *ad maximum*. The posterior surface of the cornea was, too, partially studded with punctate deposits, so that the inflammation seemed to be of a sero-plastic nature. The ophthalmoscope revealed nothing. Vision was reduced to $\frac{20}{70}$. An examination of the stump of the enucleated eye showed nothing—there was no tenderness, nor was there any contraction. As there was no increased tension, atropine was continued, leeches were applied and hot water applications made. Under this course of treatment the acute inflammatory conditions subsided, and after some weeks the eye assumed externally a normal appearance with the exception of still a hazy appearance of the posterior surface of the cornea. This condition gradually improved and all external manifestations disappeared, so that the chances of a speedy recovery were hoped for. It was only a short time, however, that I was again called to see him. This was some time in February. After pursuing the same course of treatment as before, he again improved, and since the first of April has visited my office occasionally to be under observation.

At the present time his vision is only about $\frac{20}{80}$. Had I not examined the vision of this eye before there was any trouble and found it $\frac{20}{20}$, I might account for the defect as being due to congenital amblyopia. The ophthalmoscope shows no lesion sufficient to account for the diminution. I am, however, still in hopes that the vision will improve.

## MEDICAL PROGRESS.

WEIGERT'S HOT AIR METHOD IN PHTHISIS.—A recent discussion led by NYKAMP, in which Rieth, Lazarus, Frankel and Rosenfeld took part (*Allg. Wiener Med. Zeitung*), seems to have effectually disposed of Weigert's method as a therapeutic procedure. It was claimed that, owing to the dryness and heat of the air, there was a marked increase in the congestion of the mucous membranes, the cough was aggravated, and this

tended to excite hæmorrhage; further, that the temperature of the air in the alveoli was not raised, owing to the free evaporation from the moist surfaces. This Nykamp claims to have experimentally shown by a thermometer placed deeply in the pharynx, that air inhaled at a temperature of 265° C., when it reached the pharynx had a temperature of but 55° C. It was found that a thermometer placed just beneath the vocal cords of a dog only registered 37.3° C., while the animal was inhaling air with a temperature of 190° C. From these facts the conclusion is reached that Weigert's method does not destroy the bacilli, as it cannot materially increase the temperature of the air entering the alveoli. Its only benefit, the respiratory gymnastics, may be secured by more convenient and safer methods.

RESORCIN IN DIPHTHERIA.—DR. ANDEER (*St. Petersburger Med. Wchnschr.*, May 13, 1890) affirms his earlier observations (1876–80) with the use of this drug. The article is decidedly polemical, and handles rather severely those who have criticised this treatment or the results claimed for it. Leblond and Baudier, of the Hôpital Saint Lazie of Paris, are quoted as strong supporters of this treatment, having used it with good success for the past eight years. They recommend the penciling of the affected parts with a solution:

℞ Resorcin . . . . . 3.0
Glycerini . . . . . 30.0

each hour during the day and as often as once in two hours in the night time. The sick-room should contain a Lister's spray apparatus, constantly pulverizing a solution of:

℞ Resorcin . . . . . 50.0
Aq. destil. . . . . 1000.0

Leblond and Baudier find that glycerine is an excellent adjuvant, as it absorbs the water from the parts, lessens the swelling and decreases the size of the mucous glands of the part. When the membrane affects the nose, the injection of a 1 per cent. solution, or penciling with a 5 per cent. solution, is useful.

Andeer closes his article with the advice that in cases where topical applications cannot be made, as when the trachea is involved, the injections be made directly through the crico-thyroid membrane, preferably by *à jet reflex*. Nasal diphtheria should be treated by the use of soluble bougies containing resorcin, or solutions of the same drug injected, or saturating tampons.

SOLUTION OF SODIUM CHLORIDE IN ABDOMINAL SURGERY.—M. FRITSCH (*Semaine Médical*, June 18, 1890) claims that the danger in the use of ordinary antiseptics may be avoided by employing a 6 per cent. solution of common salt, with which the abdomen is freely douched. The fluid should be carefully prepared, thoroughly sterilized, and used at a temperature of 38° C. The author says that the pains are lessened, shock decreased, and recovery hastened by this method.

LOCAL INFECTION WITH TUBERCLE BACILLUS.—DR. GUTZMANN (*Aerztlichen Praktiker—St. Petersburger Med. Wchnschr.*) describes an instance of local infection occurring to himself. In February he made a post mortem examination of a body dead of miliary tuberculosis, and, in removing the lungs, in some way injured the root of the finger nail. After the dissection he felt a pricking sensation in the tip of the finger, but could find no wound. This disappeared and nothing was noticed in the finger until the 20th of March, when it began to pain him, but nothing was thought of this until it began to be more severe, when a careful examination of the finger was made and a small abscess found at the root of the nail. This was opened and a little pus evacuated, which was spread out on a cover-glass and colored after Ehrlich's method. Upon examination three tubercle bacilli were found. The wound was thoroughly scratched out and disinfected. Lymph adenitis did not show itself, nor has there been any rise in temperature.

HÆMOPTYSIS A SYMPTOM OF INTERSTITIAL NEPHRITIS.—DR. DUCLOS (*Rev. gén. de Clin. et de Therap.*) says that hæmoptysis in adults, without cardio-pulmonary lesion, is an early symptom of interstitial nephritis. These patients are frequently affected with rheumatism, eczema, asthenia, and later they present signs of arterial sclerosis. Two interesting cases are described in which the sclerosis was at first confined to the vessels of the lung, where the condition gave rise to hæmoptysis. Later the process extended to the kidney, with an ultimately fatal result.

HYDRASTININ IN METRORRHAGIA.—E. FALK (*Arch. für Gynäkologie*, Bd. 37, Heft. 2) finds that hydrastinin which is an oxydation product of hydrastin, having the formula $C_{11}H_{13}NO_3$ is of greater use in the treatment of hæmorrhage than either hydrastin or the fluid extract of hydrastis canadensis. He claims that the drug produces strong and lasting contraction of the arterioles without affecting unpleasantly the heart or spinal cord. He gives an account of 28 cases treated in Landau's clinic which show that the drug is of great use in hæmorrhages, due to congestive conditions in the pelvic organs (congestive dysmenorrhœa, hyperplastic endometritis). In fibroids it lessens the quantity of blood, but in cases of metritis, and the severer neuroses its action is uncertain. From experiments upon animals he comes to the conclusion: that owing to the contraction of the small arteries especially the abdominal, the uterus is emptied of blood and

congestions of the genital organs are lessened. Immediate stoppage of the flow in metrorrhagia is not to be looked for, but good results may be obtained by using it a few days before menstruation is expected.

EXALGIN.—PROF. S. RABOW (*Therap. Monatschefte*, May, 1890,) gives a critical résumé of recent communications regarding exalgine. This substance related as it is to antifebrine has the power of controlling pain in a remarkable manner; by many writers it is regarded as equal to morphine, but without the unpleasant consequences of the latter. The dose is from two to seven grains, it may be given in solution, with dilute alcohol, or mixed with water—in cold water it is but sparingly soluble. Excellent results have been obtained in the treatment of facial neuralgia, lightning pains of tabes, and in migrane. None of the unpleasant symptoms noted in the use of antifebrine has been observed with this drug. When given in from ten to fifteen grain doses it may cause vertigo, but cyanosis has never been noticed. Rabow warns against the too prolonged use of the drug, as like all the aniline derivatives, it lowers the vitality of the red blood corpuscles.

FARADIC ELECTRICITY IN CATARRHAL ICTERUS.—KRAUS (*Arch. f. Kindeiheilkde.*) reports seventeen cases of catarrhal icterus cured by five or six applications of faradic electricity. One electrode is placed at the border of the liver in the neighborhood of the gall-bladder and the other in the same horizontal plane to the right of the vertebræ. The application produces contraction of the abdominal muscles, and it is also supposed to increase peristalsis in the gall-bladder which empties the organ and lessens its size.

PUERPERAL INFECTION.—ALFRED HEGAR (*v. Volkmann's Samml. Klin. Vortr.*, 1889), has added to the literature an interesting statistical study of the results of confinements in Baden for a number of years. A table is given showing the total number of labors, number of deaths within the first twenty-one days, proportion of deaths caused by puerperal fever, and other percentages. From this rich material, over 50,000 labors annually, he comes to the conclusion that the number of deaths in the first twenty-one days after labor has remained about the same for the past forty years.

Hegar rejects the theory of auto-infection, and refers every case to some external source, from this he argues that all manipulations of the genital tract are dangerous and may prove a source of infection.

He finds that the number of deaths during confinement since 1883 is greatly decreased in those under the care of physicians, so that there must be an absolute increase in the mortality of those cases cared for by midwives. This increase he refers to the practice of injecting a 3 per cent solution of carbolic acid into the vagina, before labor. This practice recommended to midwives in the last few years he regards as most pernicious, as it not only directly carries the infectious material into the genital tract but encourages a meddlesome interference.

ELECTRO-THERAPEUTICS IN ATROPHY OF THE OPTIC NERVE.—M. WEISS (*Centralbl. f. Therap.*) claims to have secured excellent results in the treatment of this intractable affection with the use of the constant galvanic current. He employs a specially constructed electrode composed of a number of fine nickel or brass wires, covered with modelling clay; by this means evenness of application to the entire surface of the closed lids is obtained. Currents of 2 milliampères are used, passing to an ordinary electrode placed at the nape of the neck. The writer claims that currents of this strength may be used for fifteen to thirty minutes without causing dizziness or distress. The length of the applications is especially insisted upon, and they should be repeated daily. The efficacy of this treatment is attested by the description of an interesting case of optic atrophy in tabes successfully treated by this method.

TREATMENT OF GOITRE.—MOSETIG-MOORHOF (*Wiener Med. Presse*, 1890), recommends the parenchymatous injection of iodoform in all soft goitres (*Struma follicularis mollis*). This variety of struma has been treated in this way, by the author, for ten years, and he has yet to see any unpleasant results. The injections are made under the strictest antiseptic precautions. Fifteen minims to 1 drachm of the following solution is used:

| | | |
|---|---|---|
| ℞. | Iodoform | ʒj. |
| | Æther | ʒv. |
| | Olive oil | ʒj. |

The solution should be freshly prepared, transparent and of a light yellow color. From five to ten injections are usually needed, depending somewhat on the size of the struma. The injections should not be made oftener than once in from three to eight days. The reaction is usually very slight, and absorption continues some time after the last injection.

NUMBER OF BLOOD CORPUSCLES IN HEALTH.—W. REMECKE, of the Bacteriological Institute in Halle (*Fortsch. d. Med.*, vii, 1889) has recently conducted a series of observations upon his own blood. The examinations were made thrice daily, for twelve days. A marked variation was found in the number of white corpuscles at different periods of the day, though the average remained about the same. The result of the total of the seventy-two observations gave an average

of 1 white corpuscle to 720 red, though variations as great as 1 to 500, or 1 to 1,000, may be normal and often occur in healthy individuals.

FURUNCLES IN DIABETES INSIPIDUS.—J. LOWINSKY (*Centralblatt fur Klin. Med.*) describes an interesting case of polyuria during the course of which multiple furuncles broke out on loins, back and thigh. The urine amounted to 7,000 cc. daily as an average of seven observations, with a specific gravity of 1004. The question of the relation of the skin symptoms to the polyuria is entered into at some length, and a brief review of the literature is given. The author concludes that there is a causal connection between diabetes insipidus and trophic changes in the skin.

BACTERIOLOGICAL STUDIES.—E. METSCHNIKOFF has recently been making some additional studies upon the anthrax bacillus (*2e Mémoire Annales de l'institut Pasteur, Centralbl. für Physiol.*). One of his conclusions is that the leucocytes of the blood are capable of destroying the living bacteria, and not as claimed by some, only the dead ones. This he claims to have experimentally demonstrated by the following method: Doves were inoculated with anthrax, and from the inoculated point some of the exudate containing leucocytes was obtained and mixed with bouillon, this substance destroys the leucocyte, but allows the bacillus to grow and multiply, as was directly observed under the microscope. That the bacillus still retained its virulence was proven by the fact that when three (?) leucocytes containing bacilli were removed on a fine pointed glass rod and placed in a drop of bouillon upon the stage of a microscope, the resulting culture proved deadly to animals.

The bearing of these observations upon the general doctrine of phagocytosis, is apparent.

ARISTOL IN THE TREATMENT OF OZÆNA.—DR. LOWENSTEIN (*Internationale Klin. Rundschau*) warmly recommends this drug in the treatment of severe forms of rhinitis. He describes four cases in which fetor was a prominent symptom, that were cured in a few days. The remedy was used in the form of a powder by insufflation, first removing all inspissated secretion, and then blowing the powder evenly over the clean mucous membrane.

IODINE IN THE TREATMENT OF RETINAL DETACHMENTS.—In the Berlin Medical Society, on May 7th, SCHOELER made a further report on the use of intra-ocular injections of iodine in the treatment of retinal detachment. A total of twenty-eight cases had been so treated, and details were given as to the five successful and the remaining more or less successful cases—three of the latter being really nearly complete successes. A number of the cases had been desperate, and hardly suitable, from their long duration, the presence of cataract, etc. Serious hæmorrhage ruined the result in three eyes; minor extravasations lessened it in two cases; and in five a brilliant success proved but transient. Based upon a series of studies upon animals, and already attended with some success, the method seems worthy of fuller study, especially by laboratory experiments; and while an expectant treatment by rest, etc., should always be tried first, there is great likelihood that the method can be used in otherwise hopeless cases with moderate safety and considerable hope of cure.—*Medical News.*

TREATMENT OF PHTHISIS BY INHALATION OF BALSAM OF PERU.—DR. SZOHNER (*Pester Med.-Chir. Presse; Internat. Klin. Rundschau*) describes the results in treating sixteen cases of phthisis by inhalations of balsam of Peru after the method of Landerer and Opitz. The results were excellent in these cases, some of which were quite far advanced. One patient suffering from diabetes was seemingly cured, at least sugar disappeared from the urine and the quantity of urine fell to normal, while another case of locomotor ataxia was greatly benefited.

KOLA-NUT FOR SEA-SICKNESS.—DR. C. W. HAMILTON, of the British Navy, writes to the *British Medical Journal* of May 10, 1890, that he has found the seed of the kola (*Sterculia acuminata*) a most successful remedy in sea-sickness. From ½ to 1 drachm of the seed was slowly chewed, and in about half an hour the distresing symptoms of the malady gradually disappeared. The writer had never found any drug to act as well as this, and believes that further trials will prove it to be an effectual remedy for sea-sickness. —*Medical Record.*

CULTIVATION OF SARCINA FOUND IN URINE.—HARTGE (*St. Petersburger Med. Wochenschr.*) details the efforts made to cultivate the sarcina, obtained from urine. All the commoner methods were employed and none of them succeeded, as it was impossible to obtain the sarcina, free from rapidly developing bacilli, that would destroy the culture medium. At last he obtained rapidly growing cultures, upon agar-agar, containing ½ per cent. of neutral urine. In this medium the sarcina would develop rapidly even when surrounded by colonies of other forms. From plate cultures he was able to inoculate urine, and solutions of sugar, so obtaining pure fluid cultures.

He briefly discusses the difference between lung and stomach sarcina, and those found in the urine. The former are easily cultivated at ordinary temperatures, while the latter require a temperature of that of the body. The former grow readily on decaying media, while the latter is easily destroyed, or at least will not grow in the presence of the commoner forms of decomposition.

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SATURDAY, JULY 19, 1890.

## THE SOCIAL STATUS OF MEDICAL MEN.

In some communities, the honor in which the medical man of the place is held by all still persists as a remnant of the age that is past. This anomaly may be observed elsewhere as a result of the social precedence which the antecedents of the incumbent carry. Many, though not all medical men, are active in every good work in the community in which they live. They are leaders in literary and educational, as well as in political and benevolent undertakings, and the influence which they exert in these directions is accredited to the profession to which they belong. The fact that they are looked to as teachers of science in its broadest sense, and as examples of culture, leads them to depart from the too narrow limits of medical reading, for excursions into literature, philosophy and science. These examples of the cultured physician are most often, if not most typically, observed in the country. The exigencies of general practice, far from specialists, encourages a study of, and practice in, the whole field of our science and art.

In the city, strange as it may seem, there is a strong tendency among medical men to become dwarfed in their general culture by an excessive devotion either to an inexhaustible practice, or to the study of a limited field. Association of place calls forth no interest in local affairs. The development of the man and the scholar is neglected for the development of the doctor or the specialist. Thought, reading, conversation and dreams alike are confined to the tread-mill of daily occupation. Therefore, with few notable exceptions, our profession in the cities is unknown in the social world. Unfortunately many medical men are influenced by financial considerations to parade in those artificial and secret organizations which are ordinarily known as benevolent societies. These offer the same possibilities of a rapid acquaintance that the small community affords.

As long as the standards of this commercial age prevail, success will be measured by the financial rewards which it secures; and science, and medicine, as the noblest and most benevolent of the applied sciences, will be poor in honor and profit. The inventor of a labor-saving device has a property in his invention, and a prospective, adequate reward; but our civilization has not yet begun to appreciate the value of life and health. What reward, for example, awaits the physician or scientist who shall restrict the ravages of disease? Every student of mycological pathology believes that preventive inoculation will be successfully practiced against all those diseases in which one attack renders the individual immune to subsequent invasion. Why are there not as many attempts to institute such protective methods as there are to contrive labor-saving machines, or to produce literary works? There is no lack of opportunity, but there is no hope of reward. Let us suppose that a young physician to-morrow brings out a method of inoculation against scarlet fever which will relegate that mournful disease to the seclusion small-pox has sought; what, in the estimation of the most sanguine, might he reasonably expect? What does history teach? There is certainly no provision for financial reward similar to the reward which would follow the invention of a more destructive weapon of warfare. Nor could honor or social distinction be expected. The optimist would hardly promise him anything but calumny, abuse and insinuations of chicanery or delusion while he lived, and a systematic defamation of his memory when he was dead and buried.[1]

Although the scientific position of medicine is inpregnable, and its lack of honor and social position is due almost entirely to its inadequate rewards, the conditions which prevail in the commercial and manufacturing pursuits are not so flattering that they tempt the adoption of so-call-

[1] "History and Pathology of Vaccination," Edgar M. Crookshank, Philadelphia: 1889. 2 vols., 8vo, pp. xii and 466 and 610.

ed business principles and methods.[2] Indeed the social and economic discussions of the day point to the probability that business has advanced as far as possible in the direction which it is pursuing, and that relief is to be expected in the abandonment of unproductive competition and commercial warfare; in fact, in a return to the principles which prevail in medicine to-day.

The restitution of its estate and of its social position to scientific medicine will be secured by a systematic effort to instruct the people, and especially the youth, in the principles of true science and the position which medicine occupies as the most practical of the applied sciences; by offering the least resistance to those false sciences, which are parading as cure-alls, confident that their true anatomy will soon be discovered under their disguises; by coöperating more and more closely with one another and with those in pursuit of the allied sciences; and by devoting a larger portion of our time and energy to the common good.

## FILARIA SANGUINIS HOMINIS AT CHARLESTON.

DR. DE SAUSSURE, of Charleston, S. C., contributes to the *Medical News* the result of his study of twenty-two cases of filaria sanguinis hominis, occuring in that city 1886. Efforts had been made prior to 1886 to discover the filaria in certain cases of chyluria, suspected to be due to the parasite, but without success. DR. JOHN GUITÉRAS obtained the first ocular proof in a mulatto woman, aged about forty years, who was chylurious. Of the 22 cases, 16 were married and parents; in over half of these, filaria were searched for among their children, husbands, wives, also among the friends and bedfellows of the unmarried; yet in only one instance was there found a second case in the same household. The white persons were seven in number, males five, females two; colored, nine males, six females. Three whites were socially "in high life," all the others, black and white, belonged to the lower and middle classes. The drinking water is mainly from the pump and artesian well, and exceptionally from the cistern; for a short period just after rain-storms, the poor may use the barrel-water for a time, but this is soon exhausted, and the people go back to the pump and well. The artesian water is from wells sunk 1,800 feet deep and over, but before it is ready for service is stored in an open reservoir; like the barrel-water it contains many specimens of microscopic animal life.

The diagnosis of the disease can alone be made with the microscope. Chyluria, chylocele, lymp-legs and glandular enlargements were frequently found without the filaria being detected. Again, filaria are found without the usual lymphatic disturbances. Again, chyluria was intermittent in every case. An abundance of filaria was not an essential index to the intensity of the chyluria.

Learning from a veterinarian of his city that filaria were frequent among the dogs of Charleston, Dr. Saussure made some observations on that animal, going to show that the embryo filaria in man and dog are very similar, if not identical. This difference occurred, however, the parasite of the dog can be detected at any time of the day or night; in man it was never found—with two exceptions—in the day. The fleas of filarious dogs were studied for some time with negative results, but finally two filaria were found in the body of a flea taken from a diseased dog. If this observation shall be confirmed it will throw considerable light on the question of the convection of the disease. DR. BANCROFT, who was the first to identify the filaria hominis in Australia, in 1876, and to point out its embryonic development in the mosquito, has advanced the opinion that all filaria, whose embryos circulate in the blood, require in order to their dispersion among other animals, the intervention of some blood-sucking animal, such as the mosquito, flea, louse or sand-fly, all of which should be studied in the localities favored by the filaria. Dr. Bancroft believes that one of the ways by which the parasite has proved injurious has been by invading the heart and there causing thrombosis; it may also be the cause of embolism.

## THE NEW HYPNOTIC, SOMNAL.

The ideal hypnotic has not yet been discovered. Chloral hydrate is a great favorite, especially among our asylum superintendents, but it has its manifest drawbacks in private practice. Chloral-urethan and chloralamide are competitors for therapeutical favor, along with somnal, all of them depending largely on chloral for their efficiency. This suggests that we may before long get some

[2] "Doctors' Inventions," editorial, The Times and Register, May 31, 1890.

composition on that base of chloral which will be more prompt and manageable than any we now have. Sulphonal has lost some of its hold by reason of its irregularity, by putting the patient to sleep twelve hours or more after the time when the somnolence was sought, or prolonging it beyond the point desired; its potency in a certain range of cases should not be denied, but taken as a whole the drug has been a disappointment to many. The latest hypnotic, somnal, to receive attention, is preferred by DR. KNY, the eminent specialist of Strasburg, chiefly on the ground that it has very little influence over the heart's action. The short time, a half-hour or less in many cases, wherein sleep is induced makes somnal much preferable to sulphonal, which seldom acts under one or two hours, or it may begin to act when the practitioner is about to administer a second dose. The inventor of somnal, HERR RADLAUER, of Berlin, has been able to prove that it is a distinct chemical compound, having the formula $C_7H_{12}CL_3O_3N$. It is obtained from chloral, alcohol and urethan, and comes as a clear fluid. It differs from chloral-urethan in that it contains two atoms more of carbon and four atoms of hydrogen. Radlauer advises that the initial dose shall be 2 grams, or ½ drachm, mixed either with syrup of raspberry or juice of licorice. The somnolence lasts seven, eight and even as long as ten hours. Doses of twice the size above mentioned have been given by PROF. LANGENBUCH, of the Lazarus Hospital at Berlin, without noticing any toxic effects, while the hypnotic result in many cases has been excellent. The quality of sleep is said not to be profound, so that the surroundings should be made as little disturbing as possible.

## PROTECTIVE INOCULATION.

One of the strongest arguments against the efficacy of the preventive inoculation of rabies, has been that an attack of the disease did not confer immunity or prevent the subsequent occurrence of the disorder. PASTEUR seems to have demonstrated that a certain immunity may be obtained in dogs, but after a time they again become liable to rabic infection. The general principle of protective inoculation has been strengthened by the recent observations of A. DE PAOLIS (*Riforma Medica*, No. 200), who has found that in repeated inoculations of rabbits with erysipelas cocci, they rapidly lose their susceptibility to the disease, until finally no reaction is obtained. He has further found that the cocci themselves soon lose their virulence when successively cultivated upon gelatine or in bouillon. These cultivated forms may be introduced into the abdominal cavity without causing any symptoms of erysipelas, or indeed, any disturbance of the general health of the animal. What is of more importance is that rabbits inoculated with this "minimized" virus are not susceptible to the most active cultures of the erysipelas cocci.

The value of observations of this kind cannot be overestimated; not only from their scientific interest but from their possible practical importance. We hope soon to chronicle the confirmation of these experiments, and to see their extension to other infectious diseases.

## EDITORIAL NOTES.

PROTECTION OF THE INSANE AGAINST FIRE. The *Medical News* says that in view of the frightful loss of life from the burning of asylums at Montreal, Canada, and Utica, N.Y., the Committee of Charities of the Massachusetts Assembly have framed a bill requiring iron fire-escapes to be constructed on the outside of all asylums for the insane throughout the State. Suitable apparatus for the distribution of water hose within the buildings will be required, and the trustees are directed to cause a regular monthly inspection to be made of these life-saving appliances.

SIXTY YEARS A PHYSICIAN.—The Chicago Medical Society at a meeting held at the Grand Pacific on the 7th inst., celebrated the sixtieth anniversary of the entrance into the medical profession of Dr. William G. Dyas, who was born in Dublin in 1807, and after passing twenty-nine years of professional life in Ireland, came to America thirty-one years ago. Appropriate resolutions on the event were read by Dr. Rachel Hickey and presented to Dr. Dyas as a memorial. The presentation speech was made by Dr. Hoag, and was received on behalf of the doctor by Dr. G. C. Paoli. Speeches were also made by Drs. William E. Clarke, C. W. Earle, E. Ingals, C. D. Wescott, and L. H. Montgomery. The Committee on Necrology paid tributes of respect to, and read sketches of the lives of recently de-

ceased members, among whom were Drs. W. H. Byford, Samuel Shaefer, T. R. Gaudy, and J. P. Ross. The meeting closed by the exhibition by Dr. C. A. Earle, of Seibert's Sterilizing Milk Apparatus, and a paper by Dr. T. Melville Hardie.

FRENCH PHYSICIANS AND THE BERLIN CONGRESS.—So far from boycotting the Berlin Medical Congress, France seems anxious to be officially represented thereat to the fullest possible extent. In addition to the nine army surgeons who will represent the Minister of War, and the three professors who are to represent the Minister of Public Instruction, it is now announced that Professor Proust, Dr. Netter, and Dr. Valude will be sent as delegates by the Minister of the Interior, in his capacity as head of the sanitary service. Drs. Brassac and Hyades will represent the Minister of Marine.

CHOLERA has again broken out in the city of Mossul, on the Tigris. The Russian government has sent Dr. Jelissejew to learn the extent and progress of cholera in Persia. It is stated to be on the increase in and about Valencia, and to have broken out in Portugal. Some alarm is felt in London and Paris. In the latter city the government has put to work some 22,000 men at filtering the water supply.

OSCAR LIEBRICH in April celebrated the 25th anniversary of his admission to the practice of medicine. He was at first a chemist, and later studied medicine at Fübingen and Berlin, where in 1865 he was made Doctor of Medicine.

ANTIPYRIN.—The extent to which antipyrin has been used may be inferred from the fact that the chemical factory in Höchst on the Main, which has a monopoly of the manufacture, reports a profit of over 5,000,000 marks.

THE NEW COMMITTEE OF PHARMACOPŒIAL REVISION.—The newly constituted Committee of Revision and Publication of the United States Pharmacopœia has twenty-five members, thirteen of whom bear the title M.D., and twelve that of Ph.D. or its equivalent. Dr. H. C. Wood, the President of the Convention, was by special vote added to the Committee, making the number of physicians fourteen. Of the thirteen, three have served formerly, Drs. T. F. Wood, F. A. Castle, and Otto A. Wall. The newly appointed physicians are Drs. Roberts Bartholow, N. S. Davis, Jr., R. T. Edes, J. M. Flint, C. O. Courtman, R. G. Eccles, W. G. Gregory, J. Godfrey, W. M. Mew, and H. H. Rusby. Of these the Army, Navy and Marine-Hospital Service have each one representative. Eleven members, in all, of the last Committee of Revision have been retained in the present one. The Chairman of the old Committee, Mr. Charles Rice, was voted the sum of $1,000 as a personal testimonial in recognition of his immense labors during the last decennium; this gift he retained long enough to express his grateful sentiments, and then passed it over to the Treasurer of the new Committee. Mr. Rice was re-elected to the chairmanship of the Committee.

DR. SCHWENINGER'S INTRODUCTION TO BISMARCK.—A German journal not long since recited the following as a truthful account of what transpired between Prince Bismarck and his favorite physician, about the time of their first meeting. It was at Carlsbad. He was feeling very unwell and sent for Dr. Schweninger, who began to put all sorts of inquiries to him, some of which did not suit him. At last the Prince lost his temper, exclaiming, "What are you driving at, doctor?" Nothing disconcerted the doctor replied, "I am at your orders, Prince; but if you wish to be treated without being questioned you had better send for the veterinary, he is accustomed to practice medicine that way." The Prince saw the point and gruffly said, "Hold on, I guess you are the man I want," and became the model patient from that day forward.

REMOVAL OF A LOWER LID FOR CARCINOMA.—Prof. Eversbush (*Munch. Med. Woch.*), reports the removal of a lower lid for Carcinoma, the defect in the skin being supplied by a flap from the forehead, the mucous membranes of the œsophagus of a rabbit furnishing the conjunctiva for the new lid.

DR. F. H. BROWN, of Boston, has invented an apparatus to enable deaf persons to hear public speakers.

ON June 20th the foundation stone of the main buildings of the Emperor and Empress Frederick Children's Hospital, at Berlin was laid in the presence of the Empress Frederick. Professor Virchow, in the name of the Committee, thanked that exalted lady for her unremitting labors on behalf of the new institution, towards the cost of which she had collected $125,000.

# TOPICS OF THE WEEK.

### THE RACES OF CENTRAL AFRICA.

The Masai tribes who inhabit the rich volcanic country east of the Victoria Nyanza are among the most interesting people in Central Africa. They are not negroes: they have good cranial development, straight, well-shaped noses, eyes with a slight Mongolian slant upwards, prominent cheek bones, jaws rarely prognathous, chocolate-colored skins, and extremely well-proportioned limbs. Both men and women elongate the lobes of the ear by ear-stretchers, till they nearly reach to the shoulders, and their fists can be put through the orifice in the distended part. The chief achievements of the young Masai men or warriors seem to be to make eloquent speeches and to commit murder. Internecine wars have depopulated their country, and their ferocious attacks on caravans have made Masai land both the terror and the *terra incognita* of travellers. Till they marry the young men feed on milk and flesh food, and smoking and chewing tobacco and drinking fermented liquors are strictly forbidden. Before setting out on a fighting excursion the warriors retire to the mountains and gorge themselves with beef with the idea that they thereby store up strength. After marriage they add vegetables to their food, and they then chew tobacco and indulge in an occasional carouse. The married men and women live in kraals apart, and the unmarried girls and warriors live together in other villages by themselves, in a state of promiscuous free love. The women are completely clothed in dressed hides, and are as immoral as the men are arrogant and ferocious. The Masai will not allow burial of a corpse, as they think it will poison the soil, and it is therefore cast to the wild beasts without ceremony.

They have no religion and no belief in a future, but are extremely suspicious, and have complete belief in witchcraft. Thompson, the traveller, was the first European to traverse the country of this terrible Masai, did so by posing as a great white wizard by the aid of an electrical machine, an artificial set of teeth removed at will, and Eno's fruit salt, which, on being made to fizz at the firing of a gun, would, it was alleged, work wonders ten days after he had left. To spit on a person is to confer the greatest mark of respect. Where the Masai have, as the result of warfare, been obliged to settle and mix with other tribes, and have been cut off from the evil traditions of their race, their superior mental development has resulted in producing hybrid tribes distinguished for their energy in trade and their good government. This experience is encouraging at the present moment when we are making arrangements to take these wild tribes under our protection.

The Wa-Karirondo, who live north of the savage Masai, are cultivators of the soil and a vegetarian people. They have a less fine physique and less ferocity of disposition than the Masai. The men go absolutely nude; the women "wear necklace and a smile," and sometimes a cotton tail; but though unclothed they are as distinguished for their modesty and virtue as the draped Masai women are for their audacity and vice. They are fond of dancing, in which violent muscular movements of the arms and shoulders play the principal part.

The Waganda may be said to be the French of Central Africa. They are people with ideas, and they lead the fashions. A race which prides itself on descent from remote white progenitors, the Waganda stand out, by reason of their elaborate system of autocratic government, their laws and customs which control all the affairs of life, even the amount of bare leg permissible at court; their higher civilization, which is shown in their dress, houses and sanitary arrangements—as distinct and separate from the naked savages which surround Uganda, "the Pearl of Central Africa." The Emperor Mtesa, with his barbaric court on the shores of the Victoria Nyanza, his arrogance and cruelty, his intelligence and eager desire to learn, his vast armies and his huge harem, has been described by Speke and Stanley with such minuteness and brilliancy that his name and character will never be forgotten. The Waganda are extremely intelligent, and the missionaries who followed in Stanley's steps and established a station at Uganda tell wonderful stories of individual converts who quickly learnt to read the Bible in their native tongue, and to write capital letters, and who even suffered cruel martyrdoms for their faith; but all who have had anything to do with these people agree that, as a whole, they are crafty, lying, murderous thieves. Both men and women are draped in bark-cloth, and immodesty is a crime; the dwellings are clean, and each householder is obliged to construct a privy away from the house; the banana and plantains are the staple articles of food, the savory cooking of which is practiced. The Waganda are very skillful with their fingers, and in the making of shields, spears, and canoes they excel all other African tribes; they are extremely fond of music, and have a number of musical instruments; indeed, so fond are all the African races of music, that, in Sir Samuel Baker's opinion, a man who plays the cornet, or an organ grinder, could pass unharmed from one end of Africa to the other; and that a missionary to be successful ought to be able to dance a jig and play the bagpipes. Women in Uganda are mere baggage and all wives have their price.

The Wanyamwezi, who have become the trusted porters or *pagazis* of all exploring parties or trade caravans into the interior, are a people of great endurance and physical strength, and are docile, courageous, and obedient if well led. A curious custom prevails among the Wateita of coating the body with lampblack and castor oil, which acts as a protection against excessive heats by day and chills at night.

The cannibals of the Congo, whom Stanley was the first to discover and visit, and who pursued him and his followers all down the great river with yells and cries of: "Meat! Meat! Ah, we shall have meat to-day!" show, in spite of their horrible tastes, a somewhat high standard of achievement in the building of their houses and canoes, the smelting of metals, and ornamenting of weapons, etc.

The Pigmies of the forests of Central Africa are men-

tioned by Herodotus, and have been spoken of, mostly by hearsay, by nearly all African travellers; but Du Chaillu was the first to give an account of them and their settlements and to obtain measurements of their bodies and heads. Those described by him were the Obongos, of Ashanpo-land. They are of extremely low type, with exceedingly low and narrow foreheads, in height about four feet six inches, and with the body covered with tufts of hair.

In some parts of the great central forest the dwarfs seem to be hunted and eaten by the more powerful tribes, and Stanley describes how the villages of the Congo are ornamented with the skulls of what the natives called "Sokos," who, they said, were hairy dwarfs who lived in the forest, and whom they hunted, killed, and ate, because they stole their bananas. Stanley obtained two Soko skulls, and brought them home and submitted them to Professor Huxley, who declared that they were human skulls, with all the characteristic peculiarities of the negro type, including a well-marked, but not unusual, degree of prognathism. The cephalic index was 75.

In Western Equatorial Africa the tribes are not cannibal south of the equator. The tribes are split into clans, each clan being presided over by a chief or father under whose protection they live. The powerful king and the despotic form of government of Eastern Africa are unknown. The law of the strongest does not prevail, and they do not raid for plunder. Polygamy and slavery prevail here as elsewhere in Africa. They understand the arts of weaving and smelting metals, but how they learnt them they could give no account. As these races have not been subject to European or Arab influence, it is probable that the people, as well as their primitive arts are of great antiquity. Du Chaillu holds that "of all the uncivilized races of men the negro has been found to be the most tractable and the most docile, and he possesses excellent qualities that compensate, in a great measure, for his bad ones. That he will disappear in time from the land he (Du Chaillu) has very little doubt; and that he will follow in the course of time the inferior races who preceded him."

That the population of Africa is decreasing all allow, and Du Chaillu mentions as the causes: "The slave trade, polygamy, the barrenness of the women, death among children, plague and witchcraft," and adds "the latter takes away more lives than any slave trade ever did." The system of night nurseries, described by Sir Samuel Baker, must also have great effect in keeping down the population. Into sheds, built without the means of ventilation, the babies are put at dusk, there they lie all night on the clay floor in a reeking atmosphere. They are fetched in the chilly morning by their mothers, when they try to warm their little naked bodies at the hut fire.

The ravages made by small-pox are terrible. The most repulsive form of the disease prevails, and unchecked by vaccination, it often sweep away whole villages and clans. Some writers speak of plague, and describe the bubos in the axilla, which recall the plague of the Middle Ages. Elephantiasis, leprosy, and dysentery prevail, and Europeans are almost invariably attacked by malarial fevers, which yield, however, to quinine. Drunkenness is not, as is frequently stated, introduced by Europeans, but is one of the favorite vices of the primitive negro.—*British Medical Journal.*

### SUMMER DRINKS IN INDIA.

The *Medical Record* of Calcutta contains some interesting remarks upon the beneficial effects to be derived from non-alcoholic drinks in the height of summer. After remarking that the very bane of European existence in India lies in the habits of eating and drinking, physiological arguments are adduced to show that highly carbonized materials are very deleterious in hot climates. The custom of the Moguls, who for luxury have had no equal in Indian history, is referred to as offering a fitting example. Their drinks consisted of milk, sweetened waters, or sherbets, prepared from subacid fruits, such as lemons, tamarinds, pomegranates, etc., flavored with rose or Keora essences, date juice, numerous vegetable tisanes, and some infusions of glutinous seeds flavored with sugar and essential oils. These were often cooled with ice collected in pits, where it was stored during the winter months. The Oriental races, it is asserted, suffer from few of the diseases which are common to the copious meat-eating, wine-drinking Europeans. For a hot day, a light vegetable diet is recommended, with a spare quantity of meat food and an abundance of cooling, non-alcoholic drinks. Ice is regarded as a necessity, and coffee, tea, and cocoa are to take the place of whisky-and-soda. The use of aerated waters prepared from pure and wholesome ingredients, and the admixture in them of the numerous fruit flavorings which abound in the tropics, are regarded with favor, as likely to offer a lucrative source of income to persons engaged in such trade, while also giving the European community a very acceptable form of summer drinks. This suggestion has already to a certain extent been put into practice both in this country and in America, but there is still some uneasiness as to possible evil consequences resulting from the consumption of large quantities of iced drinks when the atmospheric temperature is high. As regards light diet and extreme moderation in the use of alcohol, however, the recommendations are admirable, and might well be followed here.—*Lancet.*

### PROPRIETARY MEDICAL PREPARATIONS.

At a recent meeting of the Society for the Study of Inebriety, the President, Dr. Norman Kerr, read an abstract of a report presented to the American Society on "Nostrums." A number of reputed "cures" for alcoholic and opiate inebriety had been analyzed. All were found to have alcohol present in substantial proportions. Dr. H. W. Williams, Mr. F. J. Gray, Mr. Jabez Hogg, Mr. Wm. Gourlay, Mr. L'Oste, and Dr. Paramore took part in the discussion, which resulted in the adoption of a resolution to the effect that, as much inebriety was caused by the use of alcohol and opium under the insidious form of patent medicines and so-called "cures," the meeting was of opinion that no proprietary medical preparation should be sold unless its exact composition were printed on the cover.—*British Medical Journal.*

# PRACTICAL NOTES.

## COSMETICS FOR THE PHYSICIAN.

The secrets of the toilet, the arts by which lovely woman hides incipient corrugations, effaces blemishes, and softens and beautifies her cutaneous apparatus and its appendages generally, are rarely investigated by the physician. He contents himself with removing some particularly obtrusive mark, pulling out superfluous hairs, or trying, with spirits and Spanish flies, to fasten in the too deciduous hair. Dr. H. Paschkis, of Vienna, however, has attempted to inaugurate a new era in this line, and has written a book, "Kosmetik für Aertze," which is intended to enable the physician to add to the æsthetic enjoyment, as well as physical welfare of humanity. Paschkis' book is said by a reviewer in the *Deutsche Medizinal Zeitung* to be a thoroughly scientific one. Its formulæ are based upon dermatological knowledge and pharmaceutical experience. As illustrations we are given four formulæ for that popular domestic article, "cold cream." One of them is as follows:

℞. Lanolin . . . . . 10.0.
Boracis. . . . . 1.0.
Aqua rosmarin. . . . . 100.0.
M. Sig. Lanolin-milk.

A formula for seborrhœa is the following:

℞. Kali carbonat. . . . . 10.0.
Aqua destillat. . . . . 100.0.
Olei æth. cinnamon. . . . . gtt. 2.0.
Olei æth. rosmarin. . . . . gt. 1.0.
M.

For warts our scientific book of beauty prescribes:

℞. Acid salicylicum . . . . . 5.0.
Collodii . . . . . 20.0.
M.

For sweating feet, 5 to 10 per cent. solutions of chromic acid are recommended.

For dandruff and baldness there are, of course, numerous prescriptions, but, we regret to say, no specific is announced. For a simple wash, as preventive of dandruff, we find:

℞. Kali carbonat. . . . . 2.0.
Aquæ . . . . . 100.0.

The formula for Hebra's dandruff water is also given, viz.:

℞. Spts. æther. . . . . 100.0.
Tinct. benzoin . . . . . 15.0.
M.

Mouth-washes and tooth-powders are given, the author warning his readers especially against the use of salicylic acid for these purposes.

We have not space to describe the merits of Dr. Paschkis' work in further detail. But it is evident that, equipped therewith, the physician can enter on even terms the contest against the balms of Récamier, the secret washes of Lola Montez, and the roborant lotions of the Sutherland and other sisters.—*Med. Record.*

## DIGITALIS WITH STROPHANTHUS IN CARDIAC DROPSY.

From the Paris letter of the *Medical Press and Circular*, May 7, we copy the following combination, which has been found "decidedly useful" in the treatment of dropsy of cardiac origin:

Digitalis leaves . . . . . 30 grs.
Water . . . . . 6 fld. ozs.
Infuse and to it add:
Citrate of caffein . . . . . 30 grs.
Tinct. strophanthus. . . . . 10 drops.
Acetate potash . . . . . 2 drachms.
Syrup of orange . . . . . 1 fl. oz.
Mix. Dose, 1 tablespoonful during twenty-four hours.

## PRESCRIPTION FOR CHAPPED HANDS.

*The Times and Register* offers the following as a combination that will be found serviceable in a large proportion of cases of chapped hands:

Menthol . . . . . 12 grams.
Salol. . . . . 30 "
Olive oil . . . . . 30 minims.
Lanolin. . . . . 1.5 oz.
Mix. To be applied twice daily.

## ATROPINE IN ENURESIS.

In the *Archives* Dr. W. Perry Watson strongly advocates the use of atropine in this condition, and gives short notes of thirty cases treated in this way with quite astonishing results. The formula employed was:

℞. Atropiæ sulph. . . . . gr. j.
Aquæ destillatæ. . . . . ℥j.
M.

Of this mixture 1 drop was given for each year of the age of the child at 4 and 7 P.M. In some cases the dose was doubled, if the disease was not cured by the end of the second week. In one or two of these cases some physiological symptoms were produced.

## DIURETIN, A NEW DIURETIC.

The diuretic action of caffeine being open to the objection that it may be accompanied by sleeplessness and restlessness, it has occurred to Dr. Gram, of Copenhagen, to employ a sodio-salicylic compound of theobromine, to which he has given the name of "diuretin." Notwithstanding the strong resemblances between theobromine and caffeine, diuretin is alleged to produce strong diuretic action without in any way affecting the central nervous system, and to give satisfactory diuresis in cases of renal and cardiac dropsy in which digitalis and strophanthus have been inoperative. It is described as occurring as a white powder, containing 50 per cent. of theobromine, which dissolves in less than half its weight of water with the aid of heat, and remains in solution after the liquid has cooled. Six grams have been given daily in drachm doses.

# SOCIETY PROCEEDINGS.

## Medical Society of the District of Columbia.

*Stated Meeting, October 16, 1889.*

DR. CHARLES E. HAGNER, PRESIDENT, IN THE CHAIR.

DR. J. TABER JOHNSON presented the following cases with histories of the cases: 1. *Abscess of the Fallopian Tube.* 2. *Cysts of both Ovaries.*

DR. P. S. ROY read a paper on

### HEART FAILURE.

There seems to have been an effort made in the last two years by medical writers to introduce the term "heart failure" in the medical nomenclature with the hope, I think, of supplanting the rather vague terms now in use—syncope and heart paralysis. Up to this time so far from removing any cloud they have rather added to the confusion, but I believe a step has been taken in the right direction. The term syncope goes far back in medical literature and I find in 1847 Marsh using "heart paralysis" in cases of sudden stoppage of heart force. Heart failure can have its origin in organic changes, particularly fybroid and fatty change in the muscles, but what is oftener the case, the heart is found without any structural changes and it is with these cases I propose to deal. Looking at these cases we find two causes: Poor nutrition both in quantity and quality, or direct inhibitory action of the vagus upon the heart ganglia. Through the vagus may come an inhibitory nerve impulse which, if sufficiently strong, may stop the heart in diastole, causing death; the intrinsic ganglia of the heart being for a time powerless to act. Nothing is more beautiful to the physiologist than a study of the heart. In the study of heart failure no one has done more than McWilliams, of Aberdeen. With great clearness McWilliams traces the relations between nerve impulse and the heart's action; he shows the beautiful relationship between the intrinsic and extrinsic heart nerves. But McWilliams, I think, has given the subject more attention from a physiological than clinical standpoint, for he thinks that in a large proportion if not all cases the result must be death. He tries to prove this by experiments on dogs. To the physician who wishes to save life, (for that is the practical side of every medical subject) those cases of heart failure coming from improper and poor blood supply, thus affecting the muscular and nerve forces, are for the most interesting, for we have means of treating them and I think in most cases successfully. Where shall we look for such cases? what are the symptoms? and what treatment is necessary are the questions presenting themselves. After severe acute disease or after chronic diseases that alter the blood, look for such cases. In pneumonitis enteritis, dysentery, typhoid fever and rheumatic and gouty cases, death often comes from heart failure. The symptoms of heart failure are not always the same. Nor are they in any disease, but in most cases will be found pale or livid face, weak quick pulse, with hard respiration showing imperfect systolic action. To these symptoms may be added general nervousness. Yeo makes a most wise remark in his recent "Physiology," speaking of the special heart ganglia he says: "These nerve cells only require their nutrition kept up by a continued blood supply, in order to develop the energy necessary for their functions." The heart in heart failure, says McWilliams, has irregular or fibrillar systolic action, it has not the power to send the blood through the arteries. He also adds, one of the most common causes as improper blood supply and poor blood. Are not the conditions, therefore, plain, dilate the arteries thereby relieving the heart and giving its arterioles an increased amount of blood for its own nutrition. While these are the indications for urgent symptoms the blood must be looked to and its condition improved. Before giving several cases of my own I will mention two recorded by Bowie of Scotland. In his cases there was an acute congestion of the lungs, the patient had mitral disease but it had not gone far enough to produce any general symptoms. Bowie describes in his cases the symptoms I have given for heart failure. It was his treatment that was especially interesting to me; he says getting no result from digitalis he began the use of nux vomica, another excitor motor and used it in small doses rapidly repeated; in the course of a few hours his patients were much better and went on to recovery.

Now, it is my belief the good results gotten from the nux vomica were from the toxic and not the physiological effects. Nux vomica as a toxic agent acts as a motor depressant, thereby dilating the arterioles which met the indications. Motor stimulants are intended in an entirely different class of cases, we give digitalis and other motor stimulants, in heart dilation. They produce increased systolic power and prolong diastole, by this means the weak muscles are enabled to do more work just as one powerful blow of a sledge hammer carries a spike further than many weak blows of a child, though the same amount of energy may have been expended. In the class of heart failure due to inhibitory action of the vagus we find the heart stopping in diastole; here, just as in the other class of cases there is a want of blood, the indications are arterial dilation; for in this way the arterioles are dilated, which is a powerful stimulus to the ganglia, thus bringing on the needed systolic action. I have had in my practice in the last two months two cases of heart failure coming from improper blood supply both in quality and quantity. The first case was that

of a lady sixty years of age who was just commencing to convalesce from an attack of dysentery. In her case my attention was called to her general nervousness, and I gave her tinct. belladonna and bro. potassi to meet these symptoms. The next day I found my patient still nervous with livid face and weak pulse — indeed she was worse. I stopped the belladonna and bromide, and during the day gave her some whiskey. In the evening of the second day I was sent for to see my patient, I found her nearly unconscious and all the other symptoms I have mentioned increased, with these, the respiration had been hurried. I immediately ordered one of the most prompt motor depressants, nitroglycerine, and gave the one-fiftieth of a grain every hour. After the second dose my patient was much better and the nitroglycerine was given four times daily. At the time I gave the nitroglycerine I used a hot mustard foot bath. Nourishment was given often and in small quantities. This case has progressed to recovery. I believe digitalis would have injured my patient. My second case was a patient with typhoid fever, male about 40 years of age. The treatment was the same as in the first case, the patient got well. I have had other cases and to my sorrow some have died in spite of all treatment. This is but the outline of a class of cases that come in every man's practice requiring prompt treatment or death will result. I am convinced the term heart failure should be used in medical literature, and the time is not far distant when it will be as definite a term in medical nomenclature as typhoid fever. I have avoided making any mention of organic heart trouble, of course they may complicate any case to some extent, but in all cases the indication is more blood to the heart. I will now make my definition of heart failure, and its correctness will depend upon the correctness of what I have stated in this article. Heart failure is a more or less sudden loss of heart force due to either improper blood supply in quantity and quality or direct inhibitory nerve action upon the cardiac ganglia. Either class of cases can exist without organic changes in the muscles of the heart.

DR. HOEHLING gave the details of a case of carbolic acid poisoning from rectal enemata of carbolized water. The patient came near dying from heart failure but was stimulated by hypodermatic injections of sulphuric ether.

DR. D. O. LEACH gave the history of a child two and a half years old that came near dying from heart failure. He found it in collapse and administered whiskey freely. He met Dr. Roy the following day and told him of his case and he suggested nitroglycerine. The child had been taking the $\frac{1}{200}$ of a grain doses for a week and was getting well. Dr. Leach believed the recovery was due to the nitroglycerine.

DR. BUSEY: The subject of heart failure is very interesting and very comprehensive and should not be passed over lightly. We should define heart failure as it is consecutive to many conditions. It should be distinguished from shock, and should not be confounded with excessive inhibition. He doubted the diagnosis in Dr. Hoehling's case as the carbolic acid poisoned the center thereby impairing the heart's action. We might as well say that opium poisoning caused heart failure. Heart failure is due either to changes in the heart muscle or to defective and deficient blood-supply. It may, however, occur in a well heart from some exhausting disease, as cholera morbus or cholera infantum. Excessive loss of blood may also cause it. Heart failure may occur in a well heart as a consecutive phenomenon. It is apt to occur in pneumonia, typhoid fever, diphtheria and other long-continued exhausting diseases. In such cases it is the effect of the fever, toxic influence, fever or overwork. In continued high fevers structural changes occur in the heart muscle as shown by the necroscopy. In diphtheria it is not so much the result of the high fever as of the change in the heart caused by myocarditis, softening and granulo fatty degeneration. In typhoid fever it is the result of changes in the heart structure. It is the ordinary result of structural disease of the heart. When compensation ceases the heart gradually loses its power. In the study of this subject we should study the relation of heart failure to disease as in diphtheria, typhoid fever and pneumonia. It is not necessarily due to structural change in the heart as it may be caused by overwork as in pneumonia. In paralysis following diphtheria the heart muscle may be invaded. While heart failure is the proper term in many cases it is not always used intelligently. The pathological condition should always be considered. We should draw a distinction between heart failure, paralysis and shock. Heart failure means serious structural changes in the heart's muscle or qualitative or quantitative changes in the blood. It frequently is the result of great, excessive and long-continued exhaustion. The method of treatment is not always the same as it must depend upon the cause. Improved nutrition is the only source of permanent cure; but by prompt application of the proper remedies we may avert impending danger. In certain rare instances nitroglycerine is advisable, as when the heart is over-worked by resistance at the periphery. Digitalis increases heart power as well the resistance at the periphery. If given even as a diuretic it may produce suppression of urine. Strophanthus has the power of increasing heart action without increasing resistance at the periphery and therefore preferable to digitalis.

The results of nitroglycerine are immediate and no other except ether acts so quickly. He had resorted to hypodermatic injections of ether

and had prolonged life for hours. He gave the details of a case which he had seen with Dr. Prentiss. The man had been sick several weeks and as they entered the house were told that he was nearly dead. They found him unconcious and almost pulseless. They gave him several hypodermatic syringefuls of ether. Shortly after he sat up in bed insisting there was nothing the matter and that he would be out in a day or two. Injections were continued for several hours until the ether lost its power. They informed their patient that he could only live a short time, but he said he was not ill. At this time his intellect was clear, but he died in less than an hour. He had seen individuals apparently dead resuscitated, sit up and then die in a few hours. Ether, however, lacks permanency but will bridge over cases in which we cannot expect a cure. Cure must be through recovery of the heart muscle which is best attained by general treatment. Alcohol is a food as well as a cardiac stimulant and may sustain life for days.

DR. KING thought it was unwise in Dr. Busey to permit his patient to sit up, as the horizontal position in all such cases is desirable so as to keep as much blood as possible in the brain. Ether is one of the best immediate stimulants.

Some months ago, at the suggestion of Dr. Harrison, he gave strophanthus to a man suffering from heart failure following recovery from alcoholism and opium poisoning without beneficial effect. Every one that dies has his heart stop, so that it is difficult to say that it is heart failure as defined to-night. We should anticipate those cases liable to die of heart failure as in diphtheria, pneumonia and typhoid fever. Dr. Watson aptly calls such cases asthenia. In many cases the heart fails because there is not bulk of blood. Every fever patient should have cool water *ad libitum* so as to keep up the fluidity of the blood. It is easily absorbed by those who cannot assimilate milk. Water is the only substance that can be absorbed without previous digestion. Undoubtedly many fever patients are killed for the want of water. By giving fluids and water we maintain the bulk of the blood.

DR. PARSONS asked Dr. Roy if his patients complained of the head symptoms usual in nitroglycerine.

DR. ROY replied that he usually stops the nitroglycerine as soon as its physiological effect was manifest.

DR. HOEHLING stated that the crisis in an illness of the Emperor of Brazil was bridged by hyperdomatic injections of caffein.

DR. FRANZONI was called to the chair.

DR. HAGNER: Very often the term heart failure is used where it is not applicable. Dr. Watson was right when he advised to provide against this accident by recognizing those symptoms which cause it. He believed that patients were often killed by trying to reduce high temperatures regardless of the condition of the heart. In scarlet fever, rheumatism and some other diseases a high temperature is normal to their course. As long as the fever is in safe limits let it alone, but when it goes beyond then antipyretic remedies should be given. It seems to be the fashion in febrile diseases to lower the temperature by some of the powerful antipyretics without regard to the condition of the heart. He then gave the details of a case, aged 3 years, that had taken forty grains of the sodium salicylate instead of four grains of the ammonium carbonate for pneumonia; its temperature fell in a few hours from 105° to 97° and he found it in collapse. Free stimulatives and hot baths caused prompt reaction. We should be careful in diseases where heart failure is coming on or liable to do so, not to use powerful remedies to reduce temperature and get the conditions favorable to collapse. He agreed with Dr. Busey as to the treatment of heart failure, but disagreed with Dr. Roy. Digitalis acts as a *vis a tergo*, while nitroglycerine as a *vis a fronte* dilates the peripheral vessels and removes the resistance. In pneumonia, with heart failure, he would advise atropia to stimulate the respiratory center, digitalis to increase heart power, nitroglycerine to reduce peripheral resistance and strychnia as a cerebro-spinal stimulant and for its general tonic effect.[1] Dr. Busey would also suggest spartein as a valuable cardiac stimulant. It is true as Dr. King stated that too little water may often induce heart failure, but more discretion in its use would seem advisable than was implied from Dr. K's remark. Dr. King was right in saying that we should anticipate heart failure, and the President was right in recommending such means as might prevent it. Dr. Hagner had spoken of a normal temperature for fevers and had cited scarlet fever. This was new to him and he would not accept it as true. Scarlet fever has all phases of temperature from a safe low to an unsafe high degree. All febrile diseases vary in temperature from a low to a very high degree. Dr. Hagner insisted that no means should be taken to reduce the temperature of a febrile disease unless it passed beyond its normal course. An intermittent fever frequently has a temperature of 105°, and is not considered dangerous. So that it is not always the height that is alarming but the continued high temperature and its effect upon the powers of resistance. We may meet with an elevation of 104° to 105° without any cerebral manifestations, while again a height of only 102° or 103° may cause the most violent cerebral symptoms. The individual power to resist high temperatures is as variable as disease. It is unwise to adopt a routine practice not to interfere unless

[1] This was really all the indications that could be met by physiological therapeutics.

the temperature should rise above a certain point. In typhoid fever we do not depend on the height as much as the difference between the morning and evening temperature and the duration of the fastigium in the use of antipyretics. In intermittent fevers there is a period of absence of fever; but in continued fevers there are only remissions and they are not always sufficient to permit recuperation. Many other circumstances also guide us in the method of treatment. Heart failure during or after continued fevers is more frequent than before the employment of the newly discovered antipyretics. Drugs that act as quickly and powerfully as these antipyretics are dangerous; and death is frequently due to their indiscreet employment. They should be used in hyperpyrexia only to reduce dangerously high temperatures. He had seen collapse produced in an adult from two and a half grains of antipyrin and the good judgment and prompt action of the nurse only saved the patient's life. He resorts to such treatment only where other means failed. The cold water coil was safer and more effective. He had regulated the temperature for weeks by it.

In a case of typhoid fever with dangerous cerebral manifestations he had employed the ice water coil constantly applied to the man's head for weeks. Recently in a lady suffering from typhlitis followed by general peritonitis the ice coil was continuously applied to the abdomen for ten days.

Dr. Magruder said the point advanced by Dr. King to keep the patient in the recumbent posture was a good one. In some patients who were, apparently, doing well the slightest exertion, as moving them or making a physical examination, might overtax the weak heart and cause its failure. He would emphasize the importance of absolute rest and recumbency in those conditions accompanied by feeble heart action. In diphtheria the erect posture is too frequently assumed for purposes of examination. He advised the administration of the spiritus etheris nitrosis in ½ oz. doses every half-hour or hour in threatened heart failure, and said that he had gotten as good results as with nitroglycerine. He would indorse the advice of Dr. Hagner to give strychnia in conjunction with nitroglycerine. Stimulating food and alcohol with strychnia would sustain life and prevent a recurrence of the syncope in many cases.

Dr. Roy read extracts from a letter written to him by Dr. Bartholow in answer to some questions on failure of the heart. By dilating the arterioles of the heart he nourished it by sending more blood to it. Digitalis does not increase the nutrition of the heart, but overworked it.

*Stated Meeting, October 23, 1889.*

Dr. A. F. A. King, in the Chair.

Dr. R. T. Edes presented a heart showing: *Emboli of the Left Ventricle and Right Auricle;* and a *Kidney Showing an Embolus.*

Dr. E. M. Shaeffer presented *Two Hundred and Five Biliary Calculi*, varying in size from $\frac{1}{16}$ to ½ in diameter, found at a post mortem.

Dr. D. S. Lamb presented a specimen with the history of a case of

LYMPHADENOMA.

This specimen is a mass of enlarged and altered glands of the neck. The alteration is found on microscopical examination by Dr. Gray, of the Med. Mus., to consist in the development of true secreting gland structure in addition to the adenoid structure; and in places to a thickening of the reticular tissue. There is also some formation of the embryonic blood vessels as found in sarcomas. The words lymphadenoma and lymphosarcoma are used indifferently by some authors for the same condition; but Dr. Gray prefers to call this "lymphadenoma." He considers this form of tumor to be *rare;* that many so-called lymphadenomata are simply lymphomas; without true secreting gland structure.

This mass involved the glands on both sides of the neck and between; and both superficial and deep. It extended slightly over the body of the lower jaw and deeply under it; extended up to the mastoid process and backwards around the neck; extended well up on both sides of the pharynx, surrounded the larynx and great vessels; and extended downwards over the upper part of the first piece of the sternum, and over the right clavicle. It was much the larger on the right side and was somewhat nodulated. It was generally white and firm; but in places soft and purulent; in several places there were openings in the skin where pus had been discharged. Below the large mass were a number of isolated ones in the subcutaneous tissue, the size of peas. Much of the superficial portion of the tumor as well as the skin itself was dense and brawny.

There was some œdema of the tissues over the upper part of the chest showing interference with the circulation. There was some œdema in the upper lobes of the lungs. The heart was normal. The blood was of good color. The liver was normal to all appearances; the gall bladder nearly empty. The spleen very small, only 3.5 oz. The stomach, intestines and kidneys normal. There was old pelvic peritonitis and a fibroid of the uterus. But there was no involvement of any other glands than those of the neck; showing the local character of the disease. The body was well nourished. The body of the lower jaw left side for about one inch in length was thickened but no connection was perceptible between this enlargement and the tumor except that of mere contact. I was unable to get the jaw or ex-examine it more closely.

The subject was a mulatto woman, age 50 at

death, who had been for a time in Freedman's hospital. She was removed to her home in South Washington, where I made the *post mortem* examination. I had expected some history of the case by this time, but have not received any definite information. I presume that there must have been pressure by the mass on important organs; on the jugulars causing cerebral conjestion; on the air passages causing dyspnœa; on the œsophagus causing dysphagia; and there must have been interference with the movement of the jaw.

I do not look upon this case as one of Hodgkin's diseases, a name which I understand should be properly applied to a group of sumptoms due to a group of symptoms due to a *general* affection of the lymphatic glands.

DR. D. S. LAMB also presented

REPORT OF NECROPSY OF A CASE OF CEREBRAL EMBOLISM (?) AND HÆMORRHAGE.

Two portions of the cerebrum of a woman about 70 years old. One from the left side shows extreme wasting and flabbiness of the posterior part of the superior parietal and much of the supramarginal lobules, beneath which the substance was unusually firm though porous. The other portion, from the right side, showed recent subarachnoidal hæmorrhagic clot in the fissures and on the surface of the ascending and superior parietal convolutions, beneath which was a recent hæmorrhagic clot and cavity the size of a hickory nut. Also a gall bladder containing several hundred small calculi. Also kidney much atrophied. Also uterus much atrophied and containing in its wall several fibroids which had undergone partial calcareous degeneration.

The history of the case was that the woman, white, aged about 70, was admitted to the Woman's Christian Association Home of this city from Providence hospital, about September 1, 1887. She had been weakminded for years, probably since the lesion of the left side of the cerebrum described; which was probably caused by embolism. While at the Home she kept her bed except as she rose to defecate and urinate; she had control over these acts. She was unable to answer questions or give any information of herself; in reply to questions she simply repeated the last words of the same. There was not apparently any paralysis; no defect of vision recorded. September 7, 1889, she had sudden and severe pain on right side of head. On the 10th she passed into stupor and so continued till death on the 14th. No paralysis nor spasm.

She seemed to require and had but little medical attention; had however, a nurse, one of the old women of the Home.

At the request of Dr. Mary Spackman, who was at the time the medical attendant, a *post mortem* examination was made by Dr. Lamb; the skull was thick; *dura mater* attached along the longitudinal groove; subarachnoidal fluid increased in quantity; there was a depression over the left lesion described; hæmorrhage on the right side at the base calcareous, the left carotid artery especially twisted and curved. The lungs much pigmented. Slight thickening of the aortic valve. Liver dark and bloodless. Gall-bladder stuffed with calculi, its wall thickened. Spleen small; artery calcareous. Stomach and intestines normal. Kidneys contracted and atrophied. Uterus as described. Ovaries and fallopian tubes atrophied.

The mental deficiency seems to have been due to the lesion of the left side; the death to that of the right.

DRS. ROBERT REYBURN and A. W. TANCIL read a paper on

TRAUMATIC TETANUS; RECOVERY.

Willie Scott, colored, æt. 14 years, No. 817 Twenty-fourth Street, N. W., some time about the last weeks in July, stuck a nail in his foot. The wound healed under domestic treatment, but a short time subsequent thereto, about one week, while playing, it broke out again, which caused quite a hæmorrhage, but it got well and attracted no further attention.

August 18, 1889, I was called to see him. Complained of pain and stiffness in the jaws, neck and shoulders; pulse a little rapid, temperature about normal, appetite good and bowels regular. ℞. Sodii salicylas, ℥ij; tinct. colchici em., ℥j; tinct. digitalis, ℥ss; syrupi aurantii, ad ℥ij. Sig. A teaspoonful in water every four hours. Do. ℞. Pulv. ipecac et opii, gr. viij. Sig. Take at bed hour.

August 19, morning, found him apparently better; wanted to go to work, to which I would not consent, and directed the same treatment continued.

August 20, morning, complained of pain in the stomach, other symptoms about the same as on August 19. ℞. Morph. sulphat., gr. j; aquæ camph., ℥j. M. Sig. ℥j every four hours. Pulv. ipecac co. discontinued.

August 21, morning, he had suffered intensely all night. Muscles of back, trunk, abdomen and extremities rigid. Abdomen retracted, features distorted, and frequent paroxysms of tonic spasms. Mouth or jaws very near closed; could not bear to be touched. The entire body, from head to feet, so stiff that we had to handle or move him by the head. Pulse 110, temperature 101.5. ℞. Quiniæ sulphat., ℥j; elix. sim., ℥ij. M. Sig. ℥j every four hours. ℞. Bromidia, ℥j. Sig. A half teaspoonful in water every two hours.

August 21, afternoon, had slept some, was more quiet, temperature much reduced, pulse ditto, and wanted something to eat. I directed them to give him milk (good rich milk) and beef-tea alter-

nately and liberally. Quiniæ and bromidia continued, and must be kept absolutely quiet.

August 22, morning, temperature and pulse near normal, had had short intervals of sleep; had taken milk and beef-tea quite freely and doing fairly well. But, as the bowels had not moved since the 17th, ordered ℞. Elaterii, gr. j; hydrarg. chlor. mit., gr. xij; pulv. sacch., ℈j; m. div. pulv. No. xij. Sig. One powder every six hours until bowels moved. After taking second powder bowels moved freely.

August 22, afternoon, temperature normal, other symptoms about the same as in the morning, said he felt better. Ordered bromidia continued, and the quiniæ mit. to be given three times a day. I was sent for between 10 and 11 on the evening of the 22d. Found him suffering what seemed almost death—intense agony. But as I had once before succeeded, in a similar case, with bromidia, I determined to push that remedy or combination. ℞. Bromidia, ℥iij, of which I gave a teaspoonful in water immediately, and thirty minutes after gave another teaspoonful, and within thirty-five minutes from second dose he was sleeping quietly. I remained with him about a half-hour longer, during which time he slept. I then directed a teaspoonful of bromidia to be given every two hours and left.

August 23, morning, had spent a fairly good night, sleeping most of the time; had taken milk several times. Still rigid from head to feet. Paroxysms of spasms not so frequent, but cramps in chest and abdomen most threatening. Respiration difficult, temperature 95°, pulse rapid and feeble. But said he felt better, and if it were not for the cramps in stomach and chest, would feel first rate. ℞. Milk punch every four hours, beef-tea to be given liberally. Bromidia, a teaspoonful in water every hour. Quiniæ sulphat., gr. iij ter in die.

August 23, afternoon, pulse stronger and more steady, respiration not so rapid, and a great deal more comfortable. Temperature about normal, has, generally speaking, quite improved since morning. Ordered one powder of the elaterii, calomel and sugar to be given at night, and to be repeated every second day if needed. Other treatment continued.

August 24, morning, temperature and pulse fair. Cramps in chest, back and abdomen still severe and threatening. Muscles not quite so tense, but he is still as stiff as a board and can not bear to be handled other than by the head. Had slept a good deal during the night and taken nourishment quite freely. Ordered quiniæ continued (gr. iij ter in die), and a teaspoonful of bromidia to be given as often as necessary to control the spasms; in other words, that he be kept continually under its influence except while taking nourishment, which I directed them to give liberally.

August 24, afternoon, Dr. Robert Reyburn saw him, in consultation with me. He was much more comfortable, doing well. Upon Dr. Reyburn's suggestion ordered, ℞. Tinct. gelsemii, gtt. x, to be given every four hours. Bromidia continued, viz.: a teaspoonful as often as needed for control of the spasms. Beef-tea and milk to be given liberally. This line of treatment was continued with but slight variation, the patient in the meanwhile making slow but gradual progress toward recovery, and on September 16 he was able to sit up in a chair. September 22 he could walk around the room by pushing a chair before him, and by September 25 he was able to go where he pleased.

The gelsemii was continued in diminished doses, viz.: gtt. viij to gtt. vj to none. The bromidia was continued in full doses, ℥j, but longer intervals, until September 26, when all treatment (medical) ended. Total amount of bromidia taken, ℥xv, and ℥ij. A. W. Tancil, M.D.

The above case is a typical example of the more chronic variety of traumatic tetanus, and is interesting because it illustrates very well what I believe to be the correct method of treatment of such cases.

The reflex action of the great nervous centres, and more especially the spinal cord, is so immensely exaggerated in tetanus that the slightest noise, the exposing the patient to a current of cold air, or even a slight movement of the patient, may develop a fatal spasm either of muscles of respiration, or some other of the group of muscles which control functions necessary to life.

Unfortunately, I have had too much of an experience in this disease from the year 1862 to the present time, to have seen every variety of treatment tried, including all the narcotics and nerve sedatives of the Pharmacopœia, also the continued use by inhalation of chloroform and ether. Anæsthetics, however, while they for a time do seem to modify and control the spasmodic contractions of the muscles, have in my experience never effected a cure. The only treatment that I have found to be reasonably successful is morphia given in large doses and in combination with bromide of potassium, but in order to do any good with the remedy it must be given in double or triple the ordinary doses and continuously; in other words, you must keep the patient in a condition of semi-narcotism all the time, for days or weeks if necessary.

In the treatment of the above case it was found absolutely necessary to disregard the ordinary rules of dosage and to give with a liberal hand the bromidia in quantities sufficiently large to keep the muscles relaxed. Several times during the early stages of the treatment of the case, the attempt was made to diminish the doses of the powerful agents used, but the aggravation of the

trismus and the painful and powerful contractions of the muscles of the abdomen and extremities compelled a return to the larger doses.

Patients suffering from traumatic tetanus as a rule, in the cases I have seen, die from violent contractions of the respiratory muscles which stop respiration, and of course they die very suddenly and unexpectedly.

Another most important point in the management of these cases is to insist upon the most absolute rest and quiet. The patient is to be placed in the darkest and most secluded corner of the house, away from noise and secure from the well meant but often fatal kindness of visitors and friends. Many a case has been doing well, when the excitement of a strange face or a visit from a friend, will bring on a spasm which may instantly prove fatal. ROBERT REYBURN, M.D.

DR. SOTHORON had had several cases of traumatic tetanus. In one case he kept the patient in a semi-comatose condition with potassium bromide, chloral, hydrate and morphia; as soon as this was stopped the convulsions recurred. He then covered the patient's abdomen with a tobacco poultice and kept repeating it for several days. Recovery took place and he attributed it to the relaxing effect of the tobacco.

DR. SCHAEFFER: The effect of tobacco on this case will add to the value of this drug. It may be consoling to tobacco chewers to know that someone had been studying its effects on tuberculous families and had found that those who were addicted to the tobacco habit lived long lives while those who abstained from its use died early in life. The antispasmodic properties were recognized.

DR. REYBURN: The reflex excitability is so great that we may be compelled to use the most powerful narcotics and push them to their physiological effects. The patient should be kept absolutely quiet because the slightest noise sometimes brought on violent spasms.

DR. KLEINSCHMIDT said that he treated a case with Dr. Appleby about the time of the introduction of chloral which recovered. A colored woman was sick two days when he saw her. In one of the convulsive attacks she had broken out two of the front teeth so that there was little difficulty in administering medicines. She was given 20 grains of chloral every hour the first day, every two hours the second day, every three hours the third day, and every four hours the fourth day until recovery. The second case to recover was that mentioned by Dr. Sothoron. In a third that recovered he had given similar doses of chloral. In another case the episthotonos was well marked and death took place before any amount of chloral had been taken.

DR. FRANZONI stated that Brown-Séquard attributed the poor results obtained from potassium bromide to the custom of administering it in too concentrated doses.

DR. ACKER said that this theory had been denied by the best authorities.

DR. EDES spoke of the antidotism between chloral and strychnia. If strychnia were given the fatal dose of chloral was much larger than if given alone. The potassium bromide should be well diluted. He had taken 100 grains of potassium bromide to test its effect upon the blood-vessels of the retinæ and an ophthalmoscopic examination had failed to detect any change.

DR. J. FORD THOMPSON had tried all kinds of treatment, but that of potassium bromide and chloral was the commonest. Statistics do not prove that there are any specifics. At one time calabar bean was supposed to act specifically. Some years ago he saw two cases in powerful colored men, which occurred within a few weeks. One was caused by a bad fracture and the other by a slight punctured wound of the palm. Both had to be held by strong men during the convulsions to keep them in bed. One died of exhaustion. The other was given potassium bromide and chloral and hypodermatic injections of morphia. He supposed he would die, but recovery took place. He saw such cases in all ages and conditions of life. If the mere relaxing of the spasms cures then why not use woorara? He had given chloroform for hours without permanent effect.

The pathology of these cases is the interesting point. There has been more written about this condition than any other. Verneuil's theory is that it is due to direct or indirect infection from the horse and is caused by a specific bacillus.

The proper treatment is preventive. If all wounds are treated properly there will be fewer cases of tetanus. Most of the injuries are suppurating when the physician is called to see them. If all wounds were thoroughly cleansed and then dressed antiseptically or aseptically there would be less tetanus. The wound should be treated to avoid every kind of infection. In Halle years ago the mortality was 40 or 50 per cent.; now it is only 2 per cent., and some of these causes are considered unavoidable. This result may be attributed to improved antiseptic methods.

In nail wounds he would advise incision, cauterization and antiseptic dressings to exclude the germs of disease, and he would venture to assert that there would be very few cases of tetanus.

In some cases death is so rapid that it is difficult to explain. In one case a carpet tack caused tetanus, and the patient died in less than forty-eight hours. In the West Indies they die of tetanus in a few hours.

DR. KLEINSCHMIDT agreed with Dr. Thompson in adopting means of prevention. That it is due to a specific bacillus capable of inoculation

has been proved. Its habitat is supposed to be garden earth, and as most cases occur from wounds in the feet and hands, it is reasonable to suppose that the dirt conveys the germ.

DR. A. F. A. KING asked Dr. Thompson if tetanus ever occurred in countries where there were no horses.

DR. THOMPSON replied that he did not know.

DR. SCHAEFFER stated that Dr. Watson mentioned cases which die from tetanus in the East Indies a few hours after receiving cuts on the hands. Pasteur claims to have discovered the remedy in inoculation.

DR. REYBURN stated that "Senn's Surgical Bacteriology" contained excellent drawings of the tetanus bacillus.

DR. EDES asked if it were more common in the colored than the white.

DR. REYBURN replied that such had not been his experience. During a warm and moist summer there were a great many cases among white boys caused by the toy-pistol.

## BOOK REVIEWS.

THE DISEASES OF CHILDREN, MEDICAL AND SURGICAL. By HENRY ASHBY, M.D., M.R.C.P., Physician to the General Hospital for Sick Children, Manchester; Lecturer and Examiner in Diseases of Children in the Victoria University, and G. A. WRIGHT, B.A., F.R.C.S., Assistant Surgeon to the Manchester Royal Infirmary and Surgeon to the Children's Hospital. London and New York: Longmans, Green & Co. 1889. Chicago: A. C. McClurg & Co. Pp. xix, 681. Price $6.

This work presents many valid claims to our attention. The product of the industry of a medical practitioner and a surgeon, it covers the whole range of medical and surgical diseases incident to childhood with a thoroughness not often found in works of this character. It is based largely upon observations made by the authors in the institutions with which they are connected, and we are quite willing to concede the claim of the writers that it is founded on personal experience and observation and is very far from being in any sense a compilation from other works. It aims at being thoroughly practical, and to this end pathological details are largely eschewed. The illustrations, which are numerous and well executed, are, for the most part, original with the work, being reproductions of photographs of cases coming under the observations of the authors. A large number of temperature charts of instructive cases are reproduced, and indeed throughout the book there is plain evidence of personal labor on a large scale, the work itself being the furthest possible removed from commonplace reproduction of the achievements of other authors. The volume is modestly dedicated to junior practitioners, but it is entirely safe to say that it fully deserves the careful attention of all classes of medical readers.

A MANUAL OF ANATOMY FOR SENIOR STUDENTS. By EDMUND OWEN, M.B., F.R.C.S., Surgeon to St. Mary's Hospital, London, and co-lecturer on Surgery, (late lecturer on Anatomy) in its Medical School. "In a practical point of view anatomy is of no use unless it can be realized in the human body."—*Francis Sibson*. With numerous illustrations. London and New York: Longmans, Green & Co. 1890.

This manual of 520 pages is just issued by the well-known firm of Longmans, Green & Co. While the field of surgical anatomy has been covered by many able writers we think the aim of the author has been so well accomplished that his work will be found a valuable addition to our medical and surgical literature. It covers the essential points in the entire range of anatomy, and is well illustrated. It also traverses the domain of the physician and the specialist. It is especially suggestive and will be found of practical value as a book for ready reference. The advanced student and the practitioner will find it well suited to their needs. Surgical diseases tersely and ably considered; fractures and dislocations, malformations and deformities are treated of, and all important operations satisfactorily described. The circulatory system, its pathology and treatment, form a specially interesting chapter. The specialties are well represented in the work, and much of valuable suggestion will be found for the general practitioner who more or less must deal with subjects which have fallen so largely to the care of specialists. In hospital practice this volume will be a practical reference book, not only in the surgical wards but also in the medical and special departments. It comes to hand from S. A. Maxwell & Co., Chicago. Price, $3.50.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume II. Second Session, held at Nashville, Tenn., November 12, 13, 14, 1889. Published by the Association. 1890.

In addition to a list of the members of the Association and its officers this volume contains the Constitution and By-Laws of the organization. The minutes of the Annual Meeting are given in full, followed by the President's Address, delivered by Dr. Hunter McGuire, of Richmond, Va., who concluded his able paper with these words: "As members of our beloved profession, let us strive to be first in scientific attainments, first in

integrity, first in high purpose for the good of mankind." Twenty-eight papers representing the writings of as many representative medical men are included in the volume. The mechanical execution is exceptionally fine, and this annual volume is a credit to the Association.

MONTHLY NURSING. By A. WORCESTER, A. M., M.D., Fellow of the Massachusetts Medical Society, Physician to the Waltham Hospital. Second Edition. New York: D. Appleton & Co. 1889.

This is a practical work which embodies the essentials contained in a series of lectures given by the author at the Boston Lying-in Hospital. It treats of the qualifications of nurses, care of patients, preliminary to confinement, and the arrangement of the lying-in chamber. The stages of labor are described and the care needed in normal cases of confinement. The diseases of children are next considered. The chapter entitled "The Baby" is a valuable one—as is also the one upon "Emergencies." The subjects of Pregnancy, Abortion, Miscarriage and Premature Births are well considered, and an appendix containing many valuable recipes for the preparations of foods and drinks suitable for the sick room add to its value. It has reached its second edition and is for sale generally. It comes to us from A. C. M'Clurg & Co., 117-121 Wabash Av., Chicago. Price, $1.25.

## MISCELLANY.

### *LETTERS RECEIVED.*

Dr. R. J. Dunglison, Philadelphia; Dr. C. F. F. Corsch, Wells Beach, Me.; Dr. G. W. Davis, Dr. S. O. L. Potter, San Francisco, Cal.; Dr. G. W. Countryman, Mellette, S. D.; Dr. W. H. Brock, Athol, Mass.; Dr. E. Le Fever, Mountsville, O.; Ward Bros., Jacksonville, Ill.; Dr. F. W. Dimmitt, Oneida, Ill.; Dr. B. H. Harris, Groveland, Ill.; Surgeon-General U. S. Army, Washington; Dr. E. Stuver, Rawlins, Wyoming; Dr. E. Kerr, Downingtown, Pa.; Dr. L. B. Grandy, Oxford, N. C.; Dr. L. Wickham, Paris, France; The Drevet Mf'g Co., Thos. Leeming & Co., Reed & Carnrick, New York; Dr. C. R. Earley, Ridgway, Pa.; Dr. H. T. Rennolds, Baltimore; Parke, Davis & Co., Detroit, Mich.; Horlick's Food Co., Racine, Wis.; Dr. J. A. Hinton, Friendship, Tenn.; Michigan Agricultural College; Dr. T. J. Whitten, Nokomis, Ill.; Dr. A. V. Wendel, Newark, N. J.; Dr. C. N. Hewitt, Red Wing, Minn.; Dr A. N. Ferguson, Winnipeg, Manitoba, Canada; Dr. F. L. Moyne, Pittsburgh, Pa.; Dr. J. E. Chancellor, Rockridge, Va.; Dr. J. A. Robison, Chicago; Dr. M. L. Mayo, Huntington, W. Va.; Dr. A. S. Tilford, Hall, Ind; E. K. Nash, Montrose, O.; The Hospital, London, Eng.; Malted Milk Co., Racine, Wis.; Robinson-Pettet Co., Louisville, Ky.; Dr. W. D. Rohl, Shelden, Ind.; Daniel Mahony, Philadelphia; A. Ramseyer, Lima, O.; Dr. E. A. Christian, Pontiac, Mich.; Dr. E. L. Jones, Florence, Ala.; Dr. W. S. Watson, Matteawan, N. Y.; Dr. R. L. Nourse, Washburn, Wis.; N. D. Guerry, Trinity, Miss.; Pearl C. Lewis, Catskill, N. Y.; Wm. C. Clemison, Warrenton, Mo.; Longmans, Green & Co., The American & Continental Sanitas Co., Manufacturers Advertising Bureau & Press Agency, New York; Dr. L. Woodruff, Alton, O.; Dr. E. D. Ferguson, Troy, N. Y.; Dr. J. L. Williams, Boston, Mass.; Dr. H. H. Grant, Louisville, Ky.; Dr. W. W. Hester, Chicago; Dr. W. C. Dorset, Columbia, Tenn.; Dr. A. L. Wilson, Indianapolis, Ind.; Dr. J. B. Deaver, Philadelphia; Dr. C. N. Udell, Blakesburg, Ia., Dr. J. E. Michael, Baltimore, Md.; Geo. S. Davis, Detroit, Mich.; Dr. G. O. W. Farnham, Beatrice, Neb.; Dr. C. R. Henderson, Deasonville, Miss.; Dr. W. H. Geddings, Bethlehem, N. H.; Dr. W. C. Dabney, White Sulphur Springs, W. Va.; Dr. A. H. Nichols, Boston, Mass.; Dr. H. Cushman, Bassett, Neb.; Dr. B. A. Watson, Jersey City, N.J.; Dr. J.T. Everett, Grinnell, Ia.; Dr. W. Nelson, Dallas, Tex.; S. S. Murdock, Boston, Mass.; Rio Chemical Co., St. Louis, Mo.; R. H. Rush, Germantown, Philadelphia; Dr. W. I. Thayer, W. M. Hoge, Brooklyn, N. Y.; Netherlands American Steamship Co., New York.

### *Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U.S. Army, from July 5, 1890, to July 11, 1890.*

Capt. John de B. W. Gardiner, Asst. Surgeon, having been found incapacitated for active service by an Army retiring board, and having complied with par. 12, S. O. 155, June 10, 1890, from this office, is, by direction of the Acting Secretary of War, granted leave of absence until further orders on account of disability. Par. 3, S O. 153, A. G. O., Washington, July 2, 1890.

Capt. Samuel Q. Robinson, Asst. Surgeon, is relieved from temporary duty at the U. S. Military Academy, West Point, N. Y., to take effect upon the arrival there of Capt. W. Fitzhugh Carter, Asst. Surgeon, and will report in person to the commanding officer, Ft. DuChesne, Utah Ter., for duty, relieving Capt. Curtis E. Price, Asst. Surgeon. Capt. Price, on being relieved by Capt. Robinson, will proceed to Ft. Wadsworth, New York Harbor, and report in person to the commanding officer of that post for duty, relieving Capt. Robert B. Benham, Asst. Surgeon. Capt. Benham, on being thus relieved from temporary duty at Ft. Wadsworth, will report in person without delay to the commanding officer, Ft. Hamilton, New York Harbor, for duty. Par. 12, S. O. 153, A. G. O., Washington, July 2, 1890.

By direction of the Secretary of War, the leave of absence on surgeon's certificate granted Capt. Marcus E. Taylor, Asst. Surgeon, in S. O. 45, Div. of the Pacific, June 13, 1890, is extended five months on surgeon's certificate of disability, with permission to go beyond sea. Par. 6, S. O. 159, A. G. O., July 10, 1890.

### *Official List of Changes in the Medical Corps of the U. S. Navy for the Two Weeks Ending July 12, 1890.*

Asst. Surgeon J. E. Page, ordered to hospital, Mare Island, Cal.

Asst. Surgeon R. M. Kennedy, ordered to the League Island Navy Yard, Pennsylvania.

Surgeon P. H. Rixey, granted leave of absence for fifteen days.

Asst. Surgeon F. N. Ogden, promoted to be a P. A. Surgeon.

Asst. Surgeon S. Stewart White, promoted to be a P. A. Surgeon.

Asst. Surgeon L. W. Atlee, granted three months' leave of absence.

Medical Inspector T. Woolverton, await orders to the U. S. S. "Philadelphia."

P. A. Surgeon P. A. Lovering, await orders to the U. S. S. "Philadelphia."

Medical Inspector D. McMurtrie, granted leave of absence for thirty days.